

AWIPS SYSTEM MODIFICATION NOTE 7, REV C (for Electronic Systems Analysts)

Maintenance Logistics & Acquisition Division

W/OPS1: FJZ

<b>SUBJECT</b>	: AWIPS Preprocessor Installation Procedure
<b>PURPOSE</b>	: To provide preprocessor installation procedures.
<b>AUTHORIZATION</b>	: The authority for this patch modification note is Request for Change AA320
<b>EQUIPMENT AFFECTED</b>	: Advanced Weather Interactive Processing System (AWIPS) at sites listed in attachment G.
<b>SITES AFFECTED</b>	: See attachment G. Also check same attachment for site exception list.
<b>PARTS REQUIRED</b>	: Northrop Grumman Information Technology, Inc (NGIT) will ship all required parts to the sites. Sites will receive 3 boxes.
<b>MODIFICATION PROCUREMENT</b>	: None
<b>TOOLS REQUIRED</b>	: Standard site tool kit, Xyplex tool, spare monitor, keyboard, and mouse.
<b>TEST EQUIPMENT REQUIRED</b>	: None
<b>EFFECT ON OTHER: INSTRUCTIONS</b>	AWIPS System Modification Note 4 and 5. File this note in EHB-13, Series II, section 5.1. AWIPS System Modification Note 7, Revision C supersedes AWIPS Modification Note 7, Revision A and B. Revision C changes include PX root password information and attachment E.
<b>VERIFICATION STATEMENT</b>	: This modification was tested at the National Weather Service Headquarters NMTW, Silver Spring, MD (SLVM2).
<b>TIME REQUIRED</b>	: 2 working days
<b>TECHNICAL SUPPORT</b>	: For questions or problems regarding these installation instructions please contact Franz J.G. Zichy at 301-713-1833 x128. For any other questions, please contact the NCF at 301-713-9344.

## INTRODUCTION

Two Linux Servers (PX1 and PX2) are added to off-load processing from the existing Data Servers (DSs) and to improve overall data flow performance. The addition of the PX1 and PX2 Linux Servers increases server performance by moving the Satellite, Grib, and Bufr Ingest to the new servers. Refer to exhibit 1 Linux Preprocessor Hardware.

## DEVICE CONFIGURATION

The two Dell PowerEdge Linux PX devices are connected through separate SCSI cables to a single Dell PowerVault mass storage unit. Each of the PX devices have an internal PERC/3 RAID card. The redundant array of independent disks (RAID) card has its own CPU, memory, and battery backup to ensure data integrity in the event of a hardware failure. The SCSI cables from each of these internal RAID cards are connected to one of two internal EMM (Enclosure Management Module) cards in the back of the mass storage unit. These EMM cards control data flow to the mass storage device. The mass storage unit is set up with two RAID arrays (also known as containers or logical drives) with four physical drives in each RAID array. The RAID arrays are RAID level 5 with the data and parity disks striped across all drives. Although the parity disk reduces the number of available data disks by one, it helps ensure data integrity.

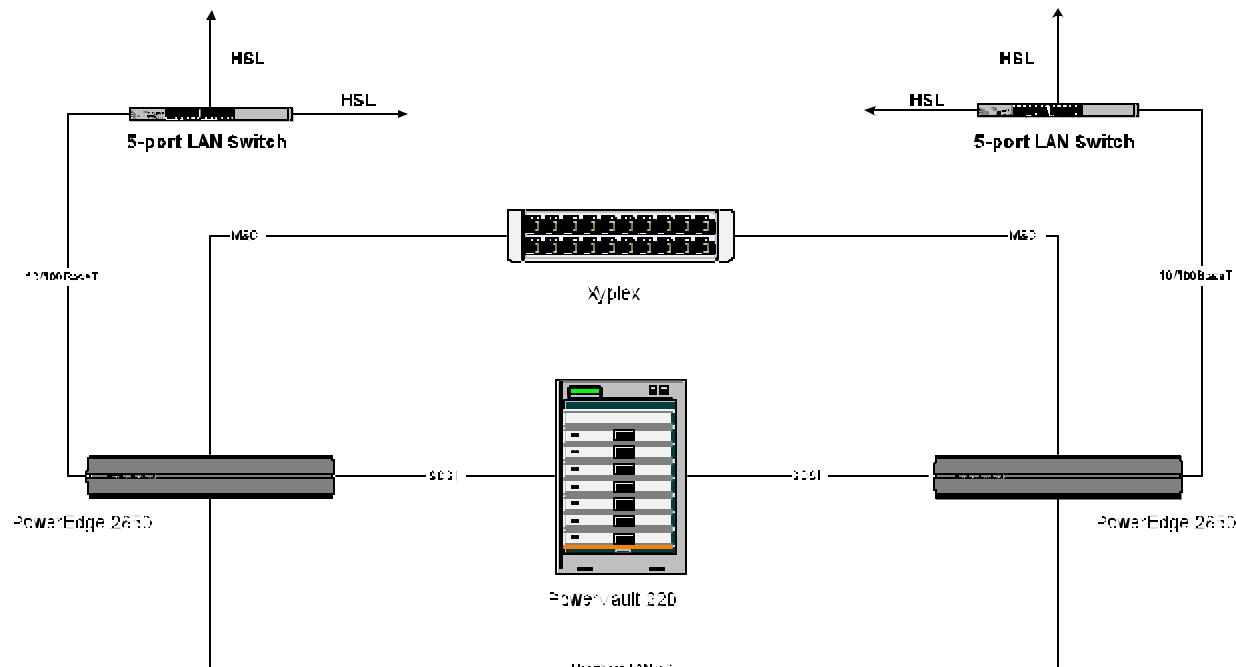


Exhibit 1

The PowerVault mass storage unit is configured and controlled via the PERC/3 RAID cards' onboard software. At this time, access to the software is available during a PX reboot. Dell provides a Windows utility to control the PowerVault while the PX is on line, but the utility has not yet been tested. The RAID cards are in a "cluster mode configuration. Any configuration changes to the mass storage unit configuration on one of the RAID cards is sent to the other card. If one of the PX devices is down when changes are made to the other card, a warning message during the boot process displays that a configuration mismatch has been found. The operator will be required to bring up the management software to reread the mass storage disk configuration. For more information on the preprocessor configuration, refer to the AWIPS System Manager's Manual for OB1.

**NOTE: Installation Guidelines**

- ESAs are asked to schedule the Preprocessor (PX) installations with their AWIPS regional focal points
- AWIPS regional focal points are asked to coordinate the PX installation using Netscape calendar set aside for AWIPS software upgrades. The attached document provides instructions on how to access:  
<http://calendar.netscape.com>
- NCF/NGIT upgrade support is available from 7AM to 7PM EDT, Monday through Thursday.
- OCONUS sites requiring installation assistance outside the set support hours on Thursdays must coordinate with the NCF a day in advance.
- A maximum number of 3 sites per day will be upgraded in the AWIPS time-frame noted above.
- Review the complete modification note before performing the installation.
- If any of the installation instructions require further clarification, call the NCF.
- Sites must coordinate the PX installation with their regional or NCEP Center AWIPS focal point. COMT, the Training Center, systems at WSH, and the OSF should schedule their upgrade with [franz.zichy@noaa.gov](mailto:franz.zichy@noaa.gov) at WSH or schedule themselves using the calendar feature on Netscape set aside for AWIPS software upgrades.

**GENERAL**

**NOTE:** This procedure does not apply to GUM, VRH, NHCR, WNAR, or Ops Demo sites (except HUN and ACR).

**Call the NCF before performing this installation.** Read each step **thoroughly** before performing a procedure. Check [http://www.ops1.nws.noaa.gov/awips\\_new.htm](http://www.ops1.nws.noaa.gov/awips_new.htm) for the latest Modification Note update.

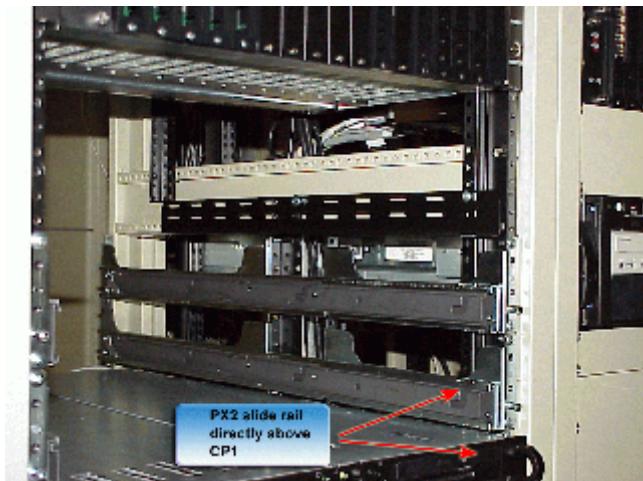
Ingest during PX Activation Procedure in part G is down for approximately 30 minutes. The communications processor will continue to spool ingest data. Once the preprocessor is activated and data ingest is restarted, AWIPS completes the ingest, decode, and store of the spooled data. Part G should **not** be performed if severe weather is anticipated during the next 7 hours. Parts A through F may be performed at any time.

**NOTE:** 1. This modification may be split up in to two portions without detriment to data ingest or AWIPS performance. The installation may be performed as follows:

- Day 1 ⇒ Sections A - D
- Day 2 ⇒ Sections E - I

**A. PowerVault Installation and Preprocessor Slide Rail Installation Procedure**

1. Remove the blank panels from above and below the Communications Processors (CP).
2. Install the PX2 slide rails first. Using two people, attach the new PX 2 slide rails to the vertical rack rails, directly above CP1, by inserting screws into the front and rear mounting plate at the 46<sup>th</sup> and 51<sup>st</sup> hole position (figure 1). Fifteen exposed holes should remain visible between the bottom of SwPnl1 and the top of PX2's slide rail mounting plate.



**Figure 1**

3. Due to the limited amount of work space on the left side of the rack (right if looking from the rear), the lower screw in the rear mounting plate may be inserted at the 48<sup>th</sup> hole position (figure 2). Do not fully tighten the screws at this time.
4. Install the PX 1 slide rails directly above the PX2 slide rails (figure 1). Insert the screws into the front and rear mounting plates at the 52<sup>nd</sup> and 57<sup>th</sup> holes. As in Step 3, the lower screw in the rear mounting plate may be inserted two holes higher to ease installation. Do not fully tighten the screws at this time.
5. Install capture nuts over top-most hole of the lower rear vertical rack rails and at the same height on the front vertical rail.
6. Attach the black L-shaped mounting rails to the capture nuts using the top row of mounting slots. Ensure that the rails are at the forward and lower most limit of the adjustment slots (figure 3). Ensure 5.25 inches of clearance between the bottom of L-shaped mounting rail and SW-PNL1. It may be necessary to loosen SW-PNL1's chassis screws, and the blank panels above it, and slide them upwards toward the top of rack, in order to gain the necessary clearance.
7. Using 2 people, install the PowerVault (mass storage) on the L-shaped mounting rails and secure it with the thumb screws on the lower corners.

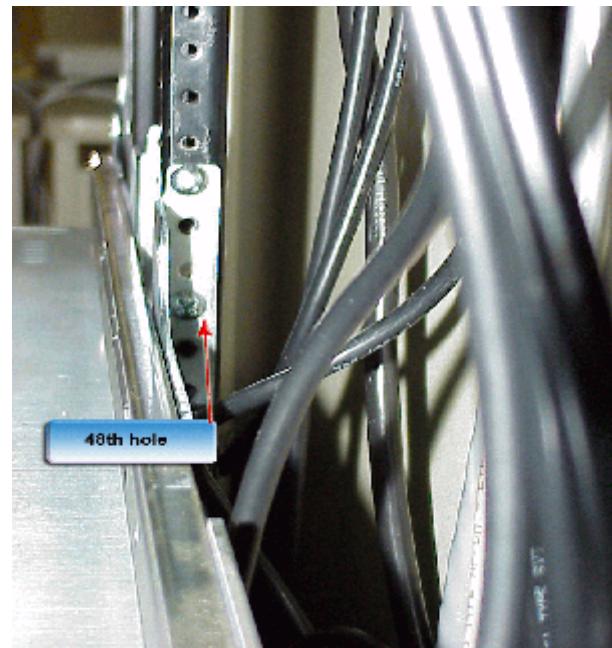


Figure 2

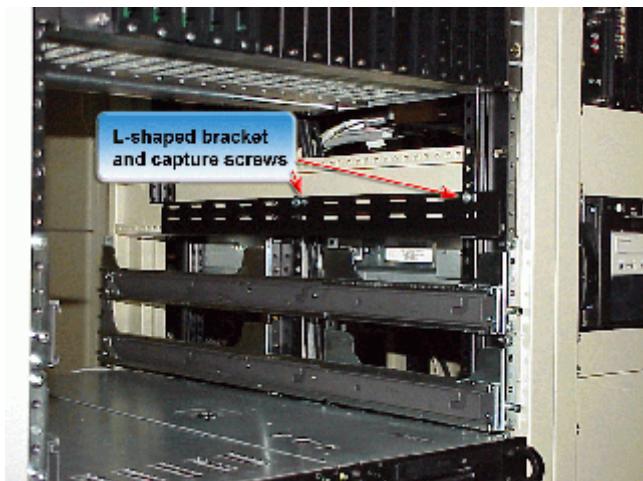
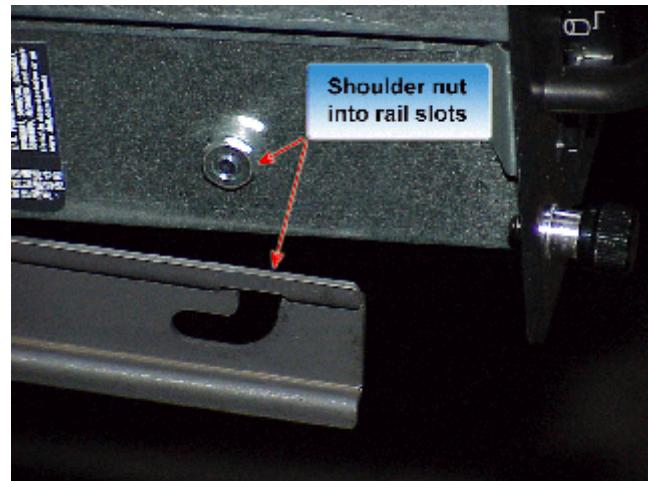
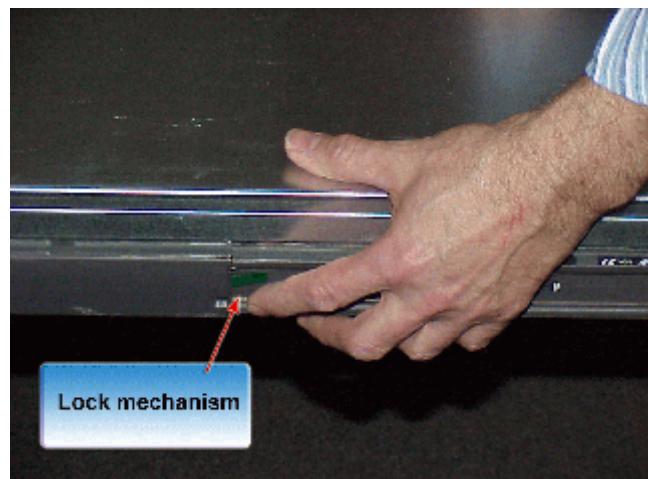


Figure 3

This completes the PowerVault and Preprocessor slide rail installation procedure.

**B. Preprocessor Equipment Installation Procedure**

1. Fully extend the PX2 slide rails ensuring that they securely latch in the extended position.
2. Using two people, lift the PX2, and beginning with the rear-most slots, slide the shoulder nuts (on the side of the chassis) into the rails slots. After all the shoulder nuts are in their appropriate slots and the PX is sitting on the mounting rails, push rearward on the unit to latch it into the rails.
3. Release the rail lock mechanisms by pushing up on the green levers on the outer sides of the slide rails, carefully slide the PX2 chassis into the rack until the rear of the chassis is at the rear vertical rail position. Tighten the slide-rail mounting screws left "snug" in Step A3 and then finish sliding the chassis into the rack and secure it with the fasteners on the lower corners of the front panel.
4. Repeat Steps 1 through 3 for PX1.

**Figure 4****Figure 5**

This completes the preprocessor equipment installation procedure.

### C. Preprocessors Cabling Procedure

1. Stack the 10/100BaseT 5-Port Switches (PX/SW 1 and 2) on the shelf in the bottom of CP rack with SP/SW 1 and 2.
2. Connect the LA1CW112, LA1CW113, LA1CW116, and LA1CW117 cables (NWS5113) to the ports (shown in table 1) on the High-Speed LAN switches (HSL/SWs) in the DS1 rack.
3. Connect the other end of LA1CW112, LA1CW113, LA1CW116, and LA1CW117 cables (NWS5113) to the ports, shown in table 1, on the PX switches (PX/SWs) in the CP rack. Note High Speed Lan (HP Procurve) Port Assignments in attachment E.

**Table 1**

<b>SB Rack</b>		<b>Cable Number</b>	<b>DS1 Rack</b>	
PX/SW 1	Port 1	LA1CW112	HSL/SW 1	Port 21
PX/SW 2	Port 1	LA1CW113	HSL/SW 1	Port 22
PX/SW 1	Port 2	LA1CW116	HSL/SW 2	Port 21
PX/SW 2	Port 2	LA1CW117	HSL/SW 2	Port 22

4. For WFOs, connect the RJ-45 end of the LA1CW118 and LA1CW119 cables (NWS5195) to Xyplex ports 3 and 4 in the AS1 rack. For RFCs and National Center 'RFC' systems, connect the RJ-45 end of the LA1CW118 and LA1CW119 cables (NWS5195) to ports 28 and 29 of the **WFO Xyplex** (attachment F)
5. Connect the DB-9 end of the LA1CW118 and LA1CW119 M&C cables (NWS3050) to the Serial 1 port of the appropriate PX in the SB rack.
6. Connect the LA1CW108 cable (NWS5115) between Port 4 of PX/SW1 and Gigabit LAN interface Port 1 on PX1.
7. Connect the LA1CW109 cable (NWS5115) between Port 4 of PX/SW2 and Gigabit LAN interface Port 1 on PX2.
8. Connect the LA1CW120 cable (NWS5115) between Port 3 of PX/SW1 and the ERA Mgmt port on PX1.
9. Connect the LA1CW121 cable (NWS5115) between Port 3 of PX/SW2 and the ERA Mgmt port on PX2.

10. Connect the PX1AW1 cable (NWS3631) between Gigabit LAN interface Port 2 on PX1 and Gigabit LAN interface Port 2 on PX2.
11. Connect the PX1AW2 cable (NWS5372) between Serial Port 2 on PX1 and Serial Port 2 on PX2.
12. Attach PX1BW1 (NWS5193) between the left-hand SCSI port (looking from back of the units) on the PowerVault (figure 6) and the left-hand port of the SCSI Adapter Card in PX1.
13. Attach PX1BW2 (NWS5193) between the right-hand SCSI port on the PowerVault and the left-hand port of the SCSI Adapter Card in PX2.



Figure 6

This completes the preprocessor cabling procedure.

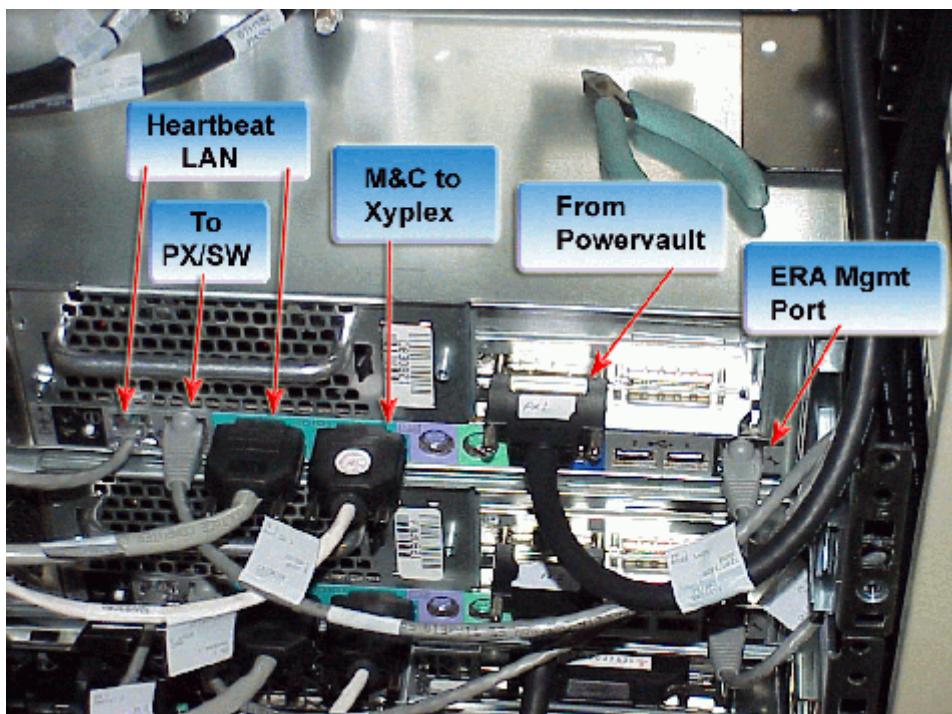


Figure 7

#### D. Preprocessors Power Up Procedure

1. Install horizontal power strip 4 below (3 exposed holes) power strip 1. The 4-way power divider (IFL Splitter) may have to be moved down [(figure 8) Black Box power strips shown; sites will use Tripp-Lite]. Mark the power strips and power cords for easier identification.
2. Plug power strip 4 into the same circuit as power strip 3. Use table 2 as a reference to plug in the newly installed hardware.
3. Remove the plug for SwPnl1 (VIR switch) from power strip 3 and plug it into receptacle six (counting from left to right) of power strip 4.
4. Plug the PX power cord into the receptacle on PX1. **Do not** plug the PX1 into the power strip.
5. Plug the PX power cord into the receptacle on PX2. **Do not** plug PX2 into the power strip.
6. Plug PX/SW 1 into receptacle five of the receptacles facing the front of the rack on power strip 2 on the bottom of the CP rack .
7. Plug PX/SW 2 into receptacle five of the receptacles facing the front of the rack on power strip 3.
8. Plug the left side power supply on the PowerVault into receptacle six on power strip 2.
9. Plug the right side power supply on the PowerVault into receptacle six on power strip 3.
10. Remove the plug for Demod2 from power strip 1 and plug it into receptacle one of power strip 4.

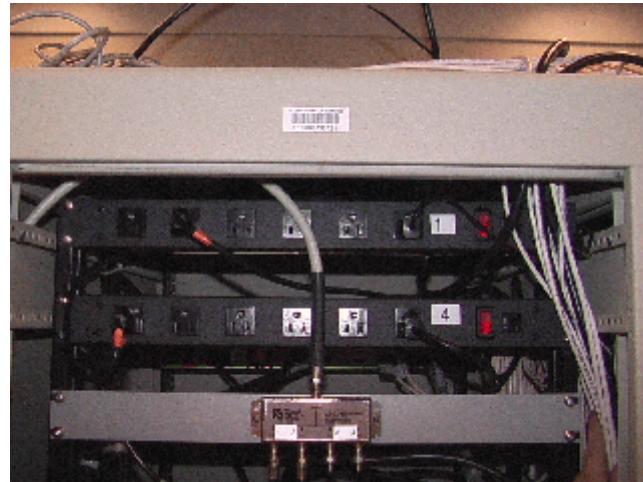


Figure 8

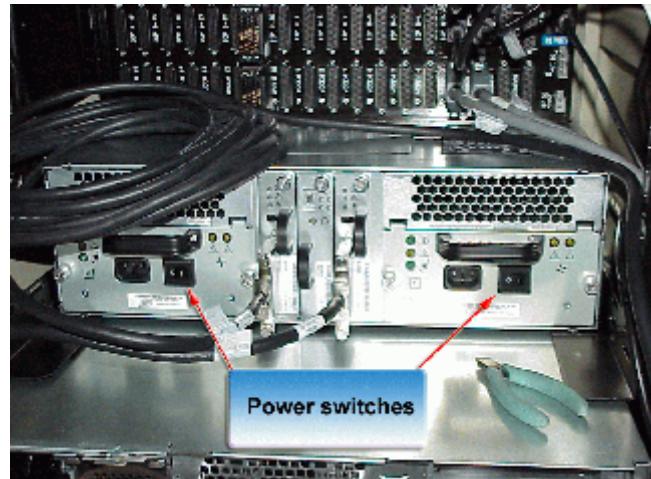


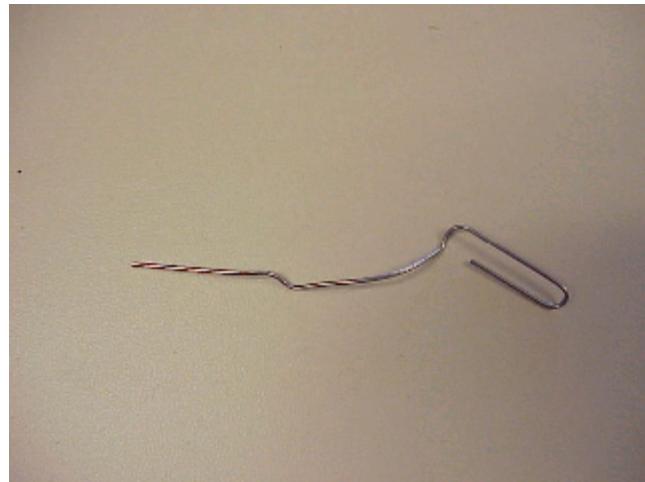
Figure 9

11. "Dress" the PX and CPSBN cables and power cords in order to allow full and unrestricted extension of the chassis on the slide rails to permit access to the internal components.
12. Apply power to the PowerVault (figure 9).

Table 2

Power Strip	Receptacle (Counting from Left to Right)	Device
1	1	Demod1
1	6	Rack Fan
1	5	WAN Probe (RFCs)
2	1	CPSBN1
2	3	SP/SW1
2	2	PX1 (At initial installation, <b>Do not</b> plug in)
2	5 (facing front of rack)	PX/SW1
2	6	LS PS PowerVault
3	1	CPSBN2
3	3	SP/SW2
3	2	PX2 (At initial installation, <b>Do not</b> plug in)
3	5 (facing front of rack)	PX/SW2
3	6	RS PS PowerVault
4	1	Demod2
4	5	WAN Probe (RFCs)
4	6	SwPnl1

13. Locate the Xyplex tool (figure 10).



**Figure 10**

14. If this site is not an RFC, at the Xyplex> prompt issue the following commands:

```
Xyplex> set priv system
Xyplex>> def port 3 from port 1
Xyplex>> def port 4 from port 1
Xyplex>> def port 3 telnet remote port 2300
Xyplex>> def port 4 telnet remote port 2400
```

If this site is an RFC, at the Xyplex> prompt on the collocated-WFO Xyplex, issue the following commands:

```
Xyplex>> def port 28 from port 1
Xyplex>> def port 29 from port 1
Xyplex>> def port 28 telnet remote port 4800
Xyplex>> def port 29 telnet remote port 4900
```

15. After approximately 1 minute, issue the following command:

```
Xyplex>> init delay 0
```

If the message “-198- WARNING - changed configuration has not been saved” is displayed, wait a few moments and reissue the **init delay 0** command.

16. After the Console and lights on the front of the Xyplex have stopped flashing, pull the Xyplex card out of the front of the unit. With the Xyplex tool, turn write-protection off (figure 11). This allows the new configuration to be saved to the flash card during the initialization in the next step. Push the card back into the unit.
17. Reboot the Xyplex.

```
Xyplex> set priv system  
Xyplex>> init delay 0
```



Figure 11

18. After the Console and Card lights on the front of the Xyplex have stopped flashing, pull the Xyplex card out of the front of the unit and, using the Xyplex tool, turn write-protection back on (figure 12).
19. Log in to the Xyplex terminal and establish a console connection for PX1 under menu item "Server." If unable to connect to the PX, contact the NCF for assistance.

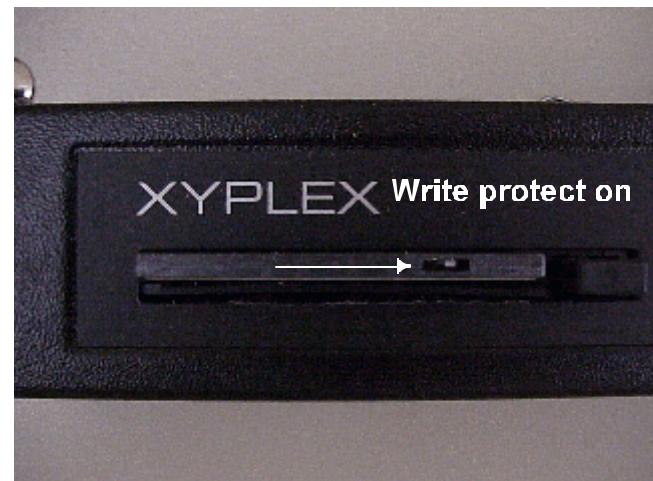


Figure 12

20. Connect a monitor and keyboard to the front of PX1 to observe the boot process.
21. Plug the PX1 into receptacle two of power strip 2. If necessary, depress the power switch on PX1. After the SCSI device check, press <**ctrl-M**> to run the configuration utility.
  - a. Press any key to continue
  - b. Select menu item 1, **Configure**.
  - c. Select **View/Add Configuration**.
  - d. The disks should be mapped to RAID A00-00 to A00-03 and RAID A01-00 to A01-03 with 4 disks in each RAID array. Arrow down to view the complete RAID array.
  - e. Press <**Esc**> 3 times to exit out of the menus.
  - f. Answer **Yes** when asked to exit the configuration.
  - g. Press <**Ctrl-Alt-Delete**> to reboot the device.
  - h. Observe the boot process. The boot process takes approximately 4 minutes before the **AT** appears on the Xplex console and an additional 45 seconds before the **px1-<sid>** login prompt appears.
22. If PX1 beeps after power up, contact the NCF.
23. Repeat Steps 19 through 22 for PX2. Plug PX2 into receptacle two of power strip 3.

This completes the preprocessor power up procedure.

**Note:** This is a good stopping point for day one. The next sections must be completed sequentially and may be continued on day two .

## E. Configure NIS Procedure

This procedure adds PX1 and PX2 to the list of NIS slave servers.

- NOTE:**
1. This procedure may cause NIS to hang devices using DS1 as their master. The devices will take approximately 1 minute to bind to another server.
  2. Inform the forecasters the workstation performance will slow during this section.
  3. The script used in this procedure may hang several times. This is because the NIS client software is rebinding to a new NIS server. **Do not interrupt the script if it appears to hang.** The script will eventually continue. The script will display the message "Done" followed by the system prompt when it is finished.

1. Log in to DS1 as root and type the following commands to reconfigure NIS on ds1, ds2, as1, as2, px1, and px2:

```
cd /home/awipsadm/install  
script -a /home/ncfuser/px_nis.out  
.px_nis.sh
```

Observe for errors and report them to the NCF. Compare the output to Attachment D.

2. When the script ends, type:

```
exit
```

This completes the NIS configuration procedure.

## F. PX Software Installation Procedure

The software installation does not affect AWIPS ingest. Verify the LX1 D2D is working correctly and the directories /home and /awips/dev are below 90 percent capacity before proceeding (this script copies /awips/fxa from LX1 and DS1). This part takes approximately 20 minutes to complete.

**NOTE:** Log in to one of the workstations as **root**. **Do not** log in as **awipsusr**.

1. Log in to DS1 as **root** and create /awips/fxa on the PXs by typing:

```
cd /home/awipsadm/install/
tar -xf PX-Install1522-tar
cd PX
script -a /home/ncfuser/InstallPX-install.out
./InstallPX.sh install
```

Observe for listed errors and report them to the NCF. Compare the output to attachment A.

2. In the event an error must be resolved, type **exit** to end the script, troubleshoot the problem with the NCF, and restart the script by repeating the commands in step 1.
3. When the script ends type:

```
exit
```

This completes the PX software installation procedure.

**G. PX Activation Procedure**

This procedure activates the PXs, moves Grib, Satellite, and BUFR ingest from DSs and AS1 to the PXs. This part takes approximately 2 ½ hours to complete. D2D can be restarted after approximately 30 minutes (see step 6).

1. Log out of all workstations (WSs and LXs) and X-terminals.

**NOTE:** Log in to one of the workstations as **root**. **Do not** log in as **awipsusr**.

2. At the logged in workstation, ensure no processes exist in /data/local and /data/fxa. Perform the necessary action to eliminate the processes.

```
fuser /data/local
```

and

```
fuser /data/fxa
```

- 3 On the workstation, continue as **root** and type the following to activate the PXs:

```
rlogin ds1 -l root
cd /home/awipsadm/install/PX
script -a /home/ncfuser/InstallPX-activate.out
./InstallPX.sh activate
```

Observe for listed errors and report them to the NCF. Compare the output to attachment B. The communications processor continues to spool ingest data. Once the PX is activated and data ingest is restarted, AWIPS completes the ingest, decode, and store of the spooled data.

4. The following message will appear:

```
ERROR CONDITION EXISTS!!
DO YOU WANT TO OVER-RIDE (yes/no) - >
```

Answer **yes** to continue, answer **no** to stop the script, clean up the directories, and stop processes. (Suggestion: answer **yes** for data ingest errors, and report to the NCF))

5. The following message will appear:

```
DO you want to continue? (Yes or no) - ->yes
```

6. Once the following message appears, log the workstations back in and restart D2D.

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
!! INGEST RESTORED - Wed Jul 17 17:57:01 GMT 2002 !!  
!! PLEASE RESTART ALL D2Ds !!  
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

7. When the script ends, type:

```
cmmmodpkg -e as1swap as2swap      (to reenable package switching)  
cmviewcl                          (to check that all packages are  
                                    enabled)
```

```
cd /home/awipsadm/install  
. /Post522PX.sh
```

```
exit
```

8. Reconfigure the AX by typing the following commands:

**Note:** The site MUST have at least R5.2.2.1 installed.

```
rlogin ax -l root  
script -a -f /local/install/configure-AXmount.PX.out  
telnet ds1 (as root)  
cd /home/awipsadm/install  
. /configure-AXmounts.sh  
exit  
exit  
exit
```

9. Once the installation is complete, call the NCF and have them verify all devices are operating normally.

This completes the PX activation procedure.

## H. Priming the PXs for Fail-Over Procedure

Perform the following steps before implementing the fail-over procedure.

1. Log in to PX1 as root and enable PX fail-over by creating a null ping.lock file in the /etc/cluster directory. Use the root password **dellpw** to log in to the PXs.  
Type:

```
touch /etc/cluster/ping.lock
```

2. In the equipment room connect the monitor and keyboard to the PX being rebooted.
3. Perform a **reboot** command to reboot PX1.
4. Check the display for any **[FAILED]** messages while the PX boots.
5. At the login prompt, wait for 1 minute before logging in as **root**.
6. Verify all cluster daemons are running by typing:

```
ps -ef | grep clu
```

A sample output follows:

root	1804	1	0	2002	?	00:00:30	cluquorumd
root	1807	1	0	2002	?	00:02:32	/sbin/clusvcmgrd
root	1809	1	0	2002	?	00:02:02	/sbin/clupowerd
root	1811	1	0	2002	ttyS1	00:00:58	/sbin/cluhbd
root	1814	1	0	2002	?	01:03:31	/sbin/clumibd
root	1816	1	0	2002	?	00:00:00	/sbin/clurmtabd
root	1818	1	0	2002	?	00:01:15	/sbin/cluscand
root	13850	1809	0	Jan20	?	00:00:00	/sbin/clupowerd

```

Cluster Status Monitor (awips)                                16:41:58

Cluster alias: Not Configured

===== Member Status =====

Member      Status     Node Id     Power Switch
-----      -----     -----     -----
px1-pqr     Up         0           Good
px2-pqr     Up         1           Good

===== Heartbeat Status =====

Name          Type     Status
-----          -----     -----
px1-beat     <--> px2-beat   network   ONLINE
/dev/tty/S1   <--> /dev/ttyS1  serial    ONLINE

===== Service Status =====

Service      Status     Owner      Last       Monitor  Restart
              -----     -----      Transition Interval Count
-----      -----     -----      -----
px1apps     started   px2-pqr   23:50:48 Aug 23  0        0
px2apps     started   px2-pqr   23:17:49 Aug 23  0        0

```

**Exhibit 2**

7. Run **clustat** to verify the PX is recognized as up and available and to ensure px1apps are owned by PX2 (exhibit 2).
8. If the failover did not succeed, or if errors were displayed, reboot PX1 and repeat steps 2 through 7.
9. Once network connectivity is established (ping the other PX, the DSs, CPs, etc.) remove the ping.lock file by typing:
 

```
rm /etc/cluster/ping.lock
```
10. Run **cluadmin -- service relocate px1apps (or px2apps)** to relocate the failed package back to the primary PX. If the relocate procedure fails, repeat step 7.

EHB-13, Ser II  
 Issuance 03-04  
 3/12/03

11. Run **clustat** to verify the PX is up and available and to ensure px1apps are owned by PX1 (exhibit 3).

Cluster Status Monitor (awips)				16:41:58	
Cluster alias: Not Configured					
===== Member Status =====					
Member	Status	Node Id	Power	Switch	
px1-pqr	Up	0	Good		
px2-pqr	Up	1	Good		
===== Heartbeat Status =====					
Name	Type	Status			
px1-beat	<--> px2-beat	network	ONLINE		
/dev/ttyS1	<--> /dev/ttyS1	serial	ONLINE		
===== Service Status =====					
Service	Status	Owner	Last Transition	Monitor Interval	Restart Count
px1apps	started	px1-pqr	00:10:48 Aug 24	0	0

**Exhibit 3**

12. Repeat for PX2.
13. In the event of a failed PX, follow the procedures in attachment C, step 7 to swap back from a failed PX.

This completes the PX priming procedure.

**I. Complete the Installation**

1. Replace blank panels. Beginning at the bottom of the rack, attach two 7" blank panels (removed earlier), one 3.5" blank panel (removed earlier), and one 1.75" blank panel (included in the field modification kit) beneath CPSBN2.
2. Attach the bezels (face plates) to the PX devices (servers and mass storage).
3. Change the root password of PX1 and PX2.
4. Call the NCF and tell them that the PX installation at your site is complete.

This completes the installation procedure.

**REPORTING MODIFICATION**

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in the NWS Instruction 30-2104, Maintenance Documentation, Part 4, and Appendix H. A sample EMRS report is included as an attachment. As an additional guide, use the information in the table below.

Block #	Block Type	Information
5	Description	Install two Linux Pre-Processors I.A.W. AWIPS Modification Note 7, Revision C
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Serial number LINUX PX 1: _____ Serial number LINUX PX 2: _____
17a	Mod. No.	7C

Mark S. Paese  
Director, Maintenance, Logistics, and Acquisition Division

Attachment A - PX Software Install Output Sample  
Attachment B - PX Activation Output Sample  
Attachment C - AWIPS Linux Pre-Processor (PX) Operating Information  
Attachment D - NIS Configuration Output Sample  
Attachment E - High Speed LAN (HP Procurve) Port Assignments  
Attachment F - WFO and RFC Xyplex Port Assignments  
Attachment G - List of Affected Sites  
Attachment H - Sample A-26 Form

**Attachment A****PX Software Install Output Sample**

```
Script started on Wed Jul 17 17:18:14 2002
ds1-nmtr:root:1450# ./InstallPX.sh install

Running ./InstallPX.sh install - Wed Jul 17 17:18:29 GMT 2002

Running System checkout
  checking that lx1 has a recent display log
    lx1 is accessible and seems to have been used recently
  checking that the datamonitor detects that the site is receiving data:
    grid data detected
    sat data detected
    point data detected
  checking that the datamonitor detects processes running:
    all processes are running according to the data monitor
  checking that /etc/hosts contains px1, px1f, px2 and px2f
  checking that all machines are pingable:
    ping test to px1 passes
    ping test to px2 passes
    ping test to ds1 passes
    ping test to ds2 passes
    ping test to as1 passes
    ping test to as2 passes
    ping test to ws1-nmtr passes
    ping test to ws2-nmtr passes
    ping test to lx1-nmtr passes
    ping test to hub1-nmtr passes
    ping test to hub2-nmtr passes
    ping test to cpsbn1 passes
    ping test to cpsbn2 passes
  checking that no packages are in a failed over state:
    all swap packages are running on their primary
  checking that root remsh works to all machines and that home is accessible:
    remsh test of px1 passes
    remsh test of px2 passes
    remsh test of ds1 passes
    remsh test of ds2 passes
    remsh test of as1 passes
    remsh test of as2 passes
    remsh test of ws1-nmtr passes
    remsh test of ws2-nmtr passes
    remsh test of lx1-nmtr passes
  checking that /pxldata and /px2data are accessible:
  checking that the necessary files are accessible:
System check out complete.

Installing PX files:
  Updating /etc/hosts.equiv and .rhosts files
    adding px1, px2, px1f and px2f to as1:/etc/hosts.equiv
```

```

adding px1, px2, px1f and px2f to as1:.rhosts
adding px1, px2, px1f and px2f to as1:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to as1:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to as1:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to as2:/etc/hosts.equiv
adding px1, px2, px1f and px2f to as2:.rhosts
adding px1, px2, px1f and px2f to as2:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to as2:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to as2:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ds1:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ds1:.rhosts
adding px1, px2, px1f and px2f to ds1:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ds1:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ds1:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ds2:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ds2:.rhosts
adding px1, px2, px1f and px2f to ds2:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ds2:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ds2:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ws1-nmtr:.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ws1-nmtr:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/etc/hosts.equiv
adding px1, px2, px1f and px2f to ws2-nmtr:.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to ws2-nmtr:/awips/fxa/textdemo/.rhosts
adding px1, px2, px1f and px2f to lx1-nmtr:/etc/hosts.equiv
adding px1, px2, px1f and px2f to lx1-nmtr:/root/.rhosts
adding px1, px2, px1f and px2f to lx1-nmtr:/awips/fxa/.rhosts
adding px1, px2, px1f and px2f to lx1-nmtr:/awips/fxa/awipsusr/.rhosts
adding px1, px2, px1f and px2f to cpsbn1:/etc/hosts.equiv
adding px1, px2, px1f and px2f to cpsbn1:/root/.rhosts
adding px1, px2, px1f and px2f to cpsbn2:/etc/hosts.equiv
adding px1, px2, px1f and px2f to cpsbn2:/root/.rhosts

Getting files from LX and DS to populate PX /awips/fxa directory
allowing px1 to export /awips/ldad
creating /PXfxatmp mount
    px1:/awips/ldad on ds1
    px1:/awips/ldad on lx1
creating tar of LX /awips/fxa
untaring AWIPS-FXA-LX.tar
RECORDING FILES put in px1:/awips/fxa from lx to
/home/ncfuser/InstallPX.log.200207171718
removing /awips/ldad/AWIPS-FXA-LX.tar
creating tar of DS /awips/fxa
untaring AWIPS-FXA-DS.tar
removing /awips/ldad/AWIPS-FXA-DS.tar
umounting /PXfxatmp and remove it
    from ds1
    from lx1
unexporting px1:/awips/ldad
running Remove_non_text_files.sh /awips/ldad/awips/fxa

```

```
RECORDING results of Remove_non_text_files.sh in
/home/ncfuser/InstallPX.log.200207171718
    tarring DS-non-text-file
    untarring DS-non-text-file
RECORDING FILES in px1:/awips/fxa from DS to
/home/ncfuser/InstallPX.log.200207171718
    Installing PX files from 5.2.2 PX release (not causing activation)
        installing ipc.config
        installing server binaries
    copying px1:/awips/fxa to px2:/awips/fxa (using cp and tar)
        tarring px1:/awips/fxa
        untarring px1:/awips/fxa
    RESULTING PX /awips/fxa files in px1:/awips/ldad/PX_FXA.tar
    creating px1:/awips/fxa/.environs.px1-nmtr and px1:/awips/fxa/.environs
    creating px2:/awips/fxa/.environs.px2-nmtr and px2:/awips/fxa/.environs
    creating directories on px1f:/px1data and px2f:/px2data
    copying grid template files to px1f:/px1data
    copying point template files to px2f:/px2data

    Updating Release_ID

PX FILES HAVE BEEN PUT IN PLACE
'./InstallPX.sh activate' will need to be run to use the PXS

./InstallPX.sh install COMPLETE -- Wed Jul 17 17:32:41 GMT 2002

ds1-nmtr:root:1455# exit

script done on Wed Jul 17 17:36:05 2002
```

**Attachment B****PX Activation Output Sample**

Script started on Mon Feb 10 20:58:37 2003  
ds1-nhor:root:227# ./InstallPX.sh activate

Running ./InstallPX.sh activate - Mon Feb 10 20:59:03 GMT 2003

Running System checkout

    checking that lx1 has a recent display log

        lx1 is accessible and seems to have been used recently

    checking that the datamonitor detects that the site is receiving data:

        grid data detected

        sat data detected

        point data detected

    checking that the datamonitor detects processes running:

WARNING : The data monitor does not report all processes as being "UP"!  
found in as1f:/awips/fxa/htdocs/dataMon/processSummary.html

[IGNORE]

ERROR : Activation may not be run since a data ingest problem may exist!  
CALL THE NCF!!

[IGNORE]

ERROR CONDITION EXISTS!!

DO YOU WANT TO OVER-RIDE?

(yes/no)->

yes

    checking that /etc/hosts contains px1, px1f, px2 and px2f

    checking that all machines are pingable:

        ping test to px1 passes

        ping test to px2 passes

        ping test to ds1 passes

        ping test to ds2 passes

        ping test to as1 passes

        ping test to as2 passes

        ping test to ws1-nhor passes

        ping test to ws2-nhor passes

        ping test to ws3-nhor passes

        ping test to ws4-nhor passes

        ping test to ws5-nhor passes

ping test to ws6-nhor passes  
ping test to ws7-nhor passes  
ping test to lx1-nhor passes  
ping test to lx2-nhor passes  
ping test to hub1-nhor passes  
ping test to hub2-nhor passes  
ping test to cpsbn1 passes  
ping test to cpsbn2 passes

checking that no packages are in a failed over state:

    all swap packages are running on their primary

checking that root remsh works to all machines and that home is accessible:

remsh test of px1 passes  
remsh test of px2 passes  
remsh test of ds1 passes  
remsh test of ds2 passes  
remsh test of as1 passes  
remsh test of as2 passes  
remsh test of ws1-nhor passes  
remsh test of ws2-nhor passes  
remsh test of ws3-nhor passes  
remsh test of ws4-nhor passes  
remsh test of ws5-nhor passes  
remsh test of ws6-nhor passes  
remsh test of ws7-nhor passes  
remsh test of lx1-nhor passes  
remsh test of lx2-nhor passes

checking that /px1data and /px2data are accessible:

checking that the necessary files are accessible:

System check out complete.

Running PX ACTIVATION - Mon Feb 10 21:00:21 GMT 2003

checking ws1-nhor for awipsusr, textdemo, or fxa processes  
checking ws1-nhor for awipsusr, textdemo, or fxa processes  
checking ws2-nhor for awipsusr, textdemo, or fxa processes  
checking ws3-nhor for awipsusr, textdemo, or fxa processes  
checking ws4-nhor for awipsusr, textdemo, or fxa processes  
checking ws5-nhor for awipsusr, textdemo, or fxa processes  
checking ws6-nhor for awipsusr, textdemo, or fxa processes  
checking ws7-nhor for awipsusr, textdemo, or fxa processes  
checking lx1-nhor for awipsusr, textdemo, or fxa processes  
checking lx2-nhor for awipsusr, textdemo, or fxa processes

**WARNING : THIS SCRIPT WILL NEED TO KILL PROCESSES**

It will kill fxa, textdemo and awipsusr processes:

```
##### FOR ws1-nhor #####
##### FOR ws2-nhor #####
##### FOR ws3-nhor #####
##### FOR ws4-nhor #####
##### FOR ws5-nhor #####
##### FOR ws6-nhor #####
##### FOR ws7-nhor #####
##### FOR lx1-nhor #####
##### FOR lx2-nhor #####
```

A detailed list is in /tmp/Processes\_to\_kill200302102059.tmp

DO you want to continue? (yes or no) -->yes

**RUNNING ACTIVATION**

Relocating pxXapps to ensure exports are correct

locating px1apps. Relocating px2apps. Making sure that px1apps is running  
px1 and px2apps is running on px2

locating px1apps.

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

!! STOPPING INGEST TO ACTIVATE - Mon Feb 10 21:18:56 GMT 2003 !!

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

**ACTIVATING CPs**

Installing cpfiles: **[If this step takes longer than 10 minutes, Call NCF]**

- cpsbn1

Installing cpfiles: **[If this step takes longer than 10 minutes, Call NCF]**

- cpsbn2

restarting cpsbn1

restarting cpsbn2

**TO VIEW OUTPUT OF START/STOP SCRIPTS USE:**

tail -f on /home/ncfuser/InstallPX.log.200302102059 #or

tail -f /etc/cmcluster/as[12]swap/\*.log

Stopping Ingest on DS1

Stopping Ingest on AS1

Stopping Ingest on AS2

Updating ds1

- directories

- links

sat  
badSatellite  
Grid  
img  
point/model  
ispan/bufr/modelSoundings  
point/GOES  
ispan/bufr/GOESSoundings

Since /data/fxa is being recreated the SITE WILL NEED TO RESTART D2D!

Updating as1

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on as1!
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating as2

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on as2!
- /etc/fstab
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating ws1-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws1-nhor!
- see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/scripts: symbolic link failed: File exists

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws2-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws2-nhor!
- see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/scripts: symbolic link failed: File exists

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws3-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws3-nhor!
- see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

ds1-nhor:ncfuser:149\$ su -

- the new /data/fxa with links to /dsdata, /px1data and /px2data  
tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws4-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws4-nhor!  
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws5-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws5-nhor!  
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating ws6-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws6-nhor!  
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

tar: data/fxa/textWSwork: symbolic link failed: File exists

Updating ws7-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on ws7-nhor!
- stopping all fxa, awipsusr, and textdemo processes on ws7-nhor!  
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating lx1-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on lx1-nhor!  
see /home/ncfuser/InstallPX.log.200302102059 for processes killed
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Updating lx2-nhor

- directories (mount points)
- stopping all fxa, awipsusr, and textdemo processes on lx2-nhor!
- /etc/fstab
- the new /data/fxa with links to /dsdata, /px1data and /px2data

Creating /data/fxa on the Preprocessors!

Updating mc.sg.fstab:

- on as1
- on as2
- on ds1
- on ds2

Putting new PX files in place

- correcting ping.sh
- correcting ping.sh
  - for px1
  - for px2
- /awips/fxa/bin/startBufrDriver
- /awips/fxa/bin/restartNotificationServer
- /awips/fxa/bin/startBufrDriver
- /awips/fxa/bin/restartNotificationServer
- /awips/fxa/data/localization/nationalData/ipc.config
- /data/fxa/data/fxa\_monitor/monitorProcesses.txt
- /awips/fxa/bin/fxa-data.purge.px
- /awips/fxa/bin/ingest.crontab.px1
- /awips/fxa/bin/ingest.crontab.px2
- /awips/fxa/bin/master.purge.px
- /awips/fxa/bin/killProc
- /awips/fxa/bin/startIngest.px1
- /awips/fxa/bin/startIngest.px2
- /awips/fxa/bin/stopIngest.px
- /awips/fxa/bin/stopIngest.px1
- /awips/fxa/bin/stopIngest.px2
- /etc/cluster/px1apps
- /etc/cluster/px2apps
- /awips/fxa/data/gribParameters0-127.txt
- /awips/fxa/data/gribPDSextension.txt
- /awips/fxa/data/scour.conf.px
- /awips/fxa/data/acqTimingParam.txt
- /awips/fxa/data/acqTimingParam.txt
- /awips/fxa/bin/ingest.crontab.px1
- /awips/fxa/bin/ingest.crontab.px2
- /awips/fxa/bin/master.purge.px
- /awips/fxa/bin/killProc
- /awips/fxa/bin/startIngest.px1
- /awips/fxa/bin/startIngest.px2
- /awips/fxa/bin/stopIngest.px
- /awips/fxa/bin/stopIngest.px1
- /awips/fxa/bin/stopIngest.px2
- /etc/cluster/px1apps
- /etc/cluster/px2apps
- /awips/fxa/bin/fxa-data.purge.px

```
/awips/fxa/data/gribParameters0-127.txt  
/awips/fxa/data/gribPDSextension.txt  
/awips/fxa/data/scour.conf.px  
/awips/fxa/data/acqTimingParam.txt  
Updating startIngest.ds1, fxa-data.purge, and scour.conf.ds  
commenting out lines the contain: 'Grib', 'Sat', 'TIG', 'YTQA', and 'YEIA'
```

- on ds1
- on ds2
- on as1
- on as2

#### RESTARTNG INGEST!

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:

```
tail -f on /home/ncfuser/InstallPX.log.200302102059 #or  
tail -f /etc/cmcluster/as[12]swap/*.log
```

starting PX processes!

```
on px1  
on px2
```

Starting ingest on as1!

Starting ingest on as2!

Starting ingest on ds1!

putting resolv.conf in place

```
cp: cannot stat `/etc/resolv.conf.save': No such file or directory  
cp: cannot stat `/etc/resolv.conf.save': No such file or directory  
putting cleantmp in place and activating
```

#### Updating Release\_ID

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
!! INGEST RESTORED - Mon Feb 10 22:08:12 GMT 2003 !!  
!! PLEASE RESTART ALL D2Ds !!  
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

Copying data to new directories on PreProcessors.

- sat
- Grid
- img
- model
- modelSoundings
- GOES

- GOESSoundings

Removing the old files from /data/fxa.

from /data/fxa/sat.PrePX Grid.PrePX img.PrePX point/model.PrePX ispan/bufr  
/modelSoundings.PrePX point/GOES.PrePX ispan/bufr/GOESSoundings.PrePX

PX1 and PX2 ARE NOW PART OF AWIPS INGEST

./InstallPX.sh activate COMPLETE -- Mon Feb 10 23:25:36 GMT 2003

ds1-nhor:root:261# exit

script done on Mon Feb 10 23:26:00 2003

**Attachment C****AWIPS Linux Pre-Processor (PX) Operating Information**

The following information is presented to facilitate understanding of how the PXs work and the effect they might have on running local applications.

**1. Mounts:**

/px1data and /px2data should be mounted on DS, AS1, AS2, WSs, and LXs. Use umount and mount to remount these nfs mounts.

ds:/data/fxa should be mounted as /dsdata (not /data/fxa as before) on AS1, AS2, WSs, LXs, PX1, and PX2.

On PXs:

**Check mounts (df):**

```
[root@px1-xxx fxa]# df
Filesystem      1k-blocks      Used   Available  Use% Mounted on
/dev/sda5        1004024    270160     682860  29% /
/dev/sdal        46636      17496     26732  40% /boot
none            513272        0     513272  0% /dev/shm
/dev/sda7        497829      8277     463850  2% /tmp
/dev/sda2        6048352   2061044    3680068 36% /usr
/dev/sda6        1004024    224816     728204  24% /var
/dev/sda8        5044156    393272    4394652  9% /awips/fxa
/dev/sda9        1011928    425120    535404  45% /awips/ldad
/dev/sda10       1011928    16412     944112  2% /awips/laps
/dev/sda11       248895     50470    185575  22% /awips/ops
/dev/sda12       2016016    119404    1794200  7% /data/logs
/dev/sdb2        25205284   3385480   20539424 15% /px1data
ds-xxxx:/data/fxa 5427200   4144640   1239096  77% /dsdata
ds-xxxx:/data/fxa_local
                    1228800    627168    591776  52% /data/fxa_local
ds-tbdw:/home    471040     212296    243760  47% /home
```

Check for ds:/home mounted on /home, ds:/data/fxa mounted on /dsdata, ds:/data/fxa\_local mounted on /data/fxa\_local. Use should not be over 90% for any file system. /px1data should be on px1f and /px2data should be on px2f.

**2. Processes:**

Grib and satellite processes are now running on px1f and the BufrDriver is now running on px2f.

The logs on px1f and px2f are the same as any other server:

/data/logs/fxa/<date>.

The restart scripts are the same as on the servers.

On px1f, the start script is /awips/fxa/bin/startIngest.px1

On px2f, the start script is /awips/fxa/bin/startIngest.px2

The stop scripts are stopIngest.px1 and stopIngest.px2.

px1f and px2f running the correct processes:

```
rlogin px1f
ps -efw|grep fxa
```

```
fxa /awips/fxa/bin/acqserver 1800 (1-5)
fxa /awips/fxa/bin/CommsRouter COMMS_ROUTER
fxa /awips/fxa/bin/CommsRouter GRID_ROUTER
fxa /awips/fxa/bin/DataController COMMS_ROUTER SatelliteController.config
fxa /awips/fxa/bin/DataController GRID_ROUTER GribController.config
fxa /awips/fxa/bin/DataController GRID_ROUTER GribImgController.config
fxa /awips/fxa/bin/GribDecoder
fxa /awips/fxa/bin/GribImgDecoder
fxa /awips/fxa/bin/Satdecoder
```

The logs for the processes:

For fxa processes, the logs are found just like any other server in /data/logs/fxa/<YYYYMMDD>

For the swap packages (px1apps and px2apps), the logs are /data/logs/px1apps,  
 /data/logs/px2apps on each PX.

The start scripts log to /data/logs/startIngest.px1 and /data/logs/startIngest.px2 on  
 each PX.

### 3. Data flow:

To verify data is being sent to the PXs use the following:

As **root**, log into cpsbn1 (and/or cpsbn2):

```
acq_stats -m5
cpsbn1-tbdr [pid=733] update/refresh(0/30 sec) GMT Wed Jul 10 22:33:31 2002
                                         Start [Wed Jul 10 22:33:31]
--> shmem_region[5] _____
```

Status client link/group/hosts 0/All/All sem_cnt= 1/ 1 (1=nonwait)										
host	client	dist	out	last_time	last_#	total	prod	buff	prod	buff
id	name	pid	hdr	typ	conn	xfr(I/A/F)	prod	buff	prod	buff
0	ds-tbdr	32743	0	acq	n/a	n/a	0W	0	0	0
0	ds-tbdr	32703*	0	acq	n/a	n/a	0W	0	0	0
1	px1f-tbdr	32711*	0	acq	n/a	n/a	0W	0	0	0
1	px1f-tbdr	32719*	0	acq	n/a	n/a	0W	0	0	0
1	px1f-tbdr	32727*	0	acq	n/a	n/a	0W	0	0	0
2	px2f-tbdr	32735*	0	acq	n/a	n/a	0W	0	0	0

If px1fs or px2f does not appear, correct:  
`/awips/data/acq_send_parms.sbn` and/or restart processes on the cp.

To check `acq_send_parms.sbn`, run the following on the cp:

```
[root@cpsbn1-tbdr /root]# grep px /awips/data/acq_send_parms.sbn
HOST[1]=px1f-$SITE_IDENTIFIER
HOST[2]=px2f-$SITE_IDENTIFIER
[root@cpsbn1-tbdr /root]#
```

If the same lines listed above (`SITE_IDENTIFIER` is spelled out exactly) do not appear, try running the following from the ds:

```
rcp:/home/awipsadm/install/PX/PXacq_send_parms.sbn \
cpszbnX:awips/data/acq_send_parms.sbn
```

then run the following on that cp as root:

```
/awips/bin/stop_cpszbn_all
/awips/bin/start_cpszbn_all
```

This restarts the processes on the CP

If `acq_stats` fails to run (possibly due to a segmentation fault), reboot the CP with the problem then once the CP has restarted, try `acq_stats` again.

A rare but possible problem could occur with `ipc.config`. Check whether

`/data/fxa/nationalData/ipc.config` lists px1f for `GRIB_ROUTER`:

```
ds1-tbdr:root:154# grep ROUTER /data/fxa/nationalData/ipc.config
    "COMMS_ROUTER" ,           "ds" ,          "12001" , \
    "GRID_ROUTER" ,           "pxlf" ,         "12002" , \
    "LDAD_ROUTER" ,           "ds" ,          "15001" , \
ds1-tbdr:root:155#
```

On px1 and px2 `/awips/fxa/data/localization/nationalData/ipc.config` should contain localhost for `GRIB_ROUTER` and `COMMS_ROUTER`:

```
[root@px1-tbdr root]# grep ROUTER \
/awips/fxa/data/localization/nationalData/ipc.config
    "COMMS_ROUTER" ,           "localhost" , "12001" , \
    "GRID_ROUTER" ,           "localhost" , "12002" , \
    "LDAD_ROUTER" ,           "ds" ,          "15001" , \
[root@px1-tbdr root]#
```

#### 4. Links

Check `/data/fxa` links (`ls -ld`):

For PXs:

```
/data/fxa/Grid -> /px1data/Grid
/data/fxa/img -> /px1data/img
/data/fxa/sat -> /px1data/sat
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/point/model -> /px2data/point/model
```

```
/data/fxa/tmp/grid -> /pxldata/tmp/grid
/data/fxa/tmp/image -> /pxldata/tmp/image
/data/fxa/tmp/img -> /pxldata/tmp/img
/data/fxa/tmp/point -> /px2data/tmp/point
```

For ASs, WSs, LXs:

```
/data/fxa/Grid -> /pxldata/Grid
/data/fxa/img -> /pxldata/img
/data/fxa/sat -> /pxldata/sat
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/point/model -> /px2data/point/model
/data/fxa/tmp/grid -> /dsdata/tmp/grid
/data/fxa/tmp/image -> /dsdata/tmp/image
/data/fxa/tmp/img -> /dsdata/tmp/img
/data/fxa/tmp/point -> /dsdata/tmp/point
```

For DSS:

```
/data/fxa/Grid -> /pxldata/Grid
/data/fxa/badRadar -> /data/fxa_local/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/img -> /pxldata/img
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/point/model -> /px2data/point/model
/data/fxa/radar -> /data/fxa_local/radar
/data/fxa/sat -> /pxldata/sat
/data/fxa/tmp/radar -> /data/fxa_local/tmp
```

For reference, the following lists all links in /data/fxa for each machine type (created by running find

/data/fxa -type l):

DS:

```
/data/fxa/Grid -> /pxldata/Grid
/data/fxa/badRadar -> /data/fxa_local/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/img -> /pxldata/img
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/laps -> /data/fxa_local/laps
/data/fxa/point/model -> /px2data/point/model
/data/fxa/radar -> /data/fxa_local/radar
/data/fxa/sat -> /pxldata/sat
/data/fxa/tmp/radar -> /data/fxa_local/tmp
/data/fxa/userPrefs -> /data/fxa/procs
```

AS,WS,LX:

```
/data/fxa/Grid -> /pxldata/Grid
/data/fxa/LDAD -> /dsdata/LDAD
/data/fxa/afos -> /dsdata/afos
/data/fxa/archive -> /dsdata/archive
/data/fxa/badRadar -> /dsdata/badRadar
/data/fxa/badSatellite -> /pxldata/badSatellite
/data/fxa/badText -> /dsdata/badText
/data/fxa/customFiles -> /dsdata/customFiles
/data/fxa/data -> /dsdata/data
/data/fxa/dgm -> /dsdata/dgm
/data/fxa/eLog -> /dsdata/eLog
/data/fxa/img -> /pxldata/img
```

```
/data/fxa/ispan/badBinLightning -> /dsdata/ispan/badBinLightning
/data/fxa/ispan/badModelBufr -> /dsdata/ispan/badModelBufr
/data/fxa/ispan/badProfiler -> /dsdata/ispan/badProfiler
/data/fxa/ispan/badRAOB -> /dsdata/ispan/badRAOB
/data/fxa/ispan/binLightning -> /dsdata/ispan/binLightning
/data/fxa/ispan/bufr/AVN -> /dsdata/ispan/bufr/AVN
/data/fxa/ispan/bufr/HPC -> /dsdata/ispan/bufr/HPC
/data/fxa/ispan/bufr/MRF -> /dsdata/ispan/bufr/MRF
/data/fxa/ispan/bufr/NGM -> /dsdata/ispan/bufr/NGM
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/ispan/bufr/profiler -> /dsdata/ispan/bufr/profiler
/data/fxa/ispan/bufr/raob -> /dsdata/ispan/bufr/raob
/data/fxa/ispan/hdp -> /dsdata/ispan/hdp
/data/fxa/ispan/hydro -> /dsdata/ispan/hydro
/data/fxa/ispan/ufr -> /dsdata/ispan/ufr
/data/fxa/laps -> /dsdata/laps
/data/fxa/ldadScheduler -> /dsdata/ldadScheduler
/data/fxa/mhs -> /dsdata/mhs
/data/fxa/nationalData -> /dsdata/nationalData
/data/fxa/nowrad -> /dsdata/nowrad
/data/fxa/nwr -> /dsdata/nwr
/data/fxa/nwws -> /dsdata/nwws
/data/fxa/point/GOES -> /dsdata/point/GOES
/data/fxa/point/acars -> /dsdata/point/acars
/data/fxa/point/aircraft -> /dsdata/point/aircraft
/data/fxa/point/binLightning -> /dsdata/point/binLightning
/data/fxa/point/lamp -> /dsdata/point/lamp
/data/fxa/point/lightning -> /dsdata/point/lightning
/data/fxa/point/localdata -> /dsdata/point/localdata
/data/fxa/point/maritime -> /dsdata/point/maritime
/data/fxa/point/metar -> /dsdata/point/metar
/data/fxa/point/model -> /px2data/point/model
/data/fxa/point/mos -> /dsdata/point/mos
/data/fxa/point/profiler -> /dsdata/point/profiler
/data/fxa/point/raob -> /dsdata/point/raob
/data/fxa/procs -> /dsdata/procs
/data/fxa/radar -> /dsdata/radar
/data/fxa/redbook -> /dsdata/redbook
/data/fxa/rps-lists -> /dsdata/rps-lists
/data/fxa/sat -> /pxldata/sat
/data/fxa/scripts -> /dsdata/scripts
/data/fxa/siteConfig -> /dsdata/siteConfig
/data/fxa/textWSwork -> /dsdata/textWSwork
/data/fxa/tmp/graphic -> /dsdata/tmp/graphic
/data/fxa/tmp/grid -> /dsdata/tmp/grid
/data/fxa/tmp/image -> /dsdata/tmp/image
/data/fxa/tmp/img -> /dsdata/tmp/img
/data/fxa/tmp/other -> /dsdata/tmp/other
/data/fxa/tmp/point -> /dsdata/tmp/point
/data/fxa/tmp/radar -> /data/fxa_local/tmp
/data/fxa/tmp/text -> /dsdata/tmp/text
/data/fxa/trigger -> /dsdata/trigger
/data/fxa/tstorm -> /dsdata/tstorm
/data/fxa/userPrefs -> /dsdata/userPrefs
/data/fxa/userSkewTs -> /dsdata/userSkewTs
/data/fxa/verification -> /dsdata/verification
```

```
/data/fxa/workFiles -> /dsdata/workFiles
```

PX:

```
/data/fxa/afos -> /dsdata/afos
/data/fxa/archive -> /dsdata/archive
/data/fxa/badRadar -> /dsdata/badRadar
/data/fxa/badSatellite -> /px1data/badSatellite
/data/fxa/badText -> /dsdata/badText
/data/fxa/customFiles -> /dsdata/customFiles
/data/fxa/data -> /dsdata/data
/data/fxa/dgm -> /dsdata/dgm
/data/fxa/eLog -> /dsdata/eLog
/data/fxa/Grid -> /px1data/Grid
/data/fxa/img -> /px1data/img
/data/fxa/ispan/badBinLightning -> /dsdata/ispan/badBinLightning
/data/fxa/ispan/badModelBufr -> /dsdata/ispan/badModelBufr
/data/fxa/ispan/badProfiler -> /dsdata/ispan/badProfiler
/data/fxa/ispan/badRAOB -> /dsdata/ispan/badRAOB
/data/fxa/ispan/binLightning -> /dsdata/ispan/binLightning
/data/fxa/ispan/bufr/AVN -> /dsdata/ispan/bufr/AVN
/data/fxa/ispan/bufr/HPC -> /dsdata/ispan/bufr/HPC
/data/fxa/ispan/bufr/modelSoundings -> /px2data/ispan/bufr/modelSoundings
/data/fxa/ispan/bufr/MRF -> /dsdata/ispan/bufr/MRF
/data/fxa/ispan/bufr/NGM -> /dsdata/ispan/bufr/NGM
/data/fxa/ispan/bufr/profiler -> /dsdata/ispan/bufr/profiler
/data/fxa/ispan/bufr/raob -> /dsdata/ispan/bufr/raob
/data/fxa/ispan/hdp -> /dsdata/ispan/hdp
/data/fxa/ispan/hydro -> /dsdata/ispan/hydro
/data/fxa/ispan/ufr -> /dsdata/ispan/ufr
/data/fxa/laps -> /dsdata/laps
/data/fxa/LDAD -> /dsdata/LDAD
/data/fxa/ldadScheduler -> /dsdata/ldadScheduler
/data/fxa/mhs -> /dsdata/mhs
/data/fxa/nationalData -> /dsdata/nationalData
/data/fxa/nowrad -> /dsdata/nowrad
/data/fxa/nwr -> /dsdata/nwr
/data/fxa/nwts -> /dsdata/nwts
/data/fxa/point/acars -> /dsdata/point/acars
/data/fxa/point/aircraft -> /dsdata/point/aircraft
/data/fxa/point/binLightning -> /dsdata/point/binLightning
/data/fxa/point/GOES -> /dsdata/point/GOES
/data/fxa/point/lamp -> /dsdata/point/lamp
/data/fxa/point/lightning -> /dsdata/point/lightning
/data/fxa/point/localdata -> /dsdata/point/localdata
/data/fxa/point/maritime -> /dsdata/point/maritime
/data/fxa/point/metar -> /dsdata/point/metar
/data/fxa/point/model -> /px2data/point/model
/data/fxa/point/mos -> /dsdata/point/mos
/data/fxa/point/profiler -> /dsdata/point/profiler
/data/fxa/point/raob -> /dsdata/point/raob
/data/fxa/procs -> /dsdata/procs
/data/fxa/radar -> /dsdata/radar
/data/fxa/redbook -> /dsdata/redbook
/data/fxa/rps-lists -> /dsdata/rps-lists
/data/fxa/sat -> /px1data/sat
```

```

/data/fxa/scripts -> /dsdata/scripts
/data/fxa/siteConfig -> /dsdata/siteConfig
/data/fxa/textWSwork -> /dsdata/textWSwork
/data/fxa/tmp/graphic -> /dsdata/tmp/graphic
/data/fxa/tmp/grid -> /px1data/tmp/grid
/data/fxa/tmp/image -> /px1data/tmp/image
/data/fxa/tmp/img -> /px1data/tmp/img
/data/fxa/tmp/other -> /dsdata/tmp/other
/data/fxa/tmp/point -> /px2data/tmp/point
/data/fxa/tmp/radar -> /data/fxa_local/tmp
/data/fxa/tmp/text -> /dsdata/tmp/text
/data/fxa/trigger -> /dsdata/trigger
/data/fxa/tstorm -> /dsdata/tstorm
/data/fxa/userPrefs -> /dsdata/userPrefs
/data/fxa/userSkewTs -> /dsdata/userSkewTs
/data/fxa/verification -> /dsdata/verification
/data/fxa/workFiles/asyncProdScheduler -> /dsdata/workFiles/asyncProdScheduler
/data/fxa/workFiles/fax -> /dsdata/workFiles/fax
/data/fxa/workFiles/logViewer -> /dsdata/workFiles/logViewer
/data/fxa/workFiles/nwr -> /dsdata/workFiles/nwr
/data/fxa/workFiles/nwss -> /dsdata/workFiles/nwss
/data/fxa/workFiles/radar -> /dsdata/workFiles/radar
/data/fxa/workFiles/wanMsgHandling -> /dsdata/workFiles/wanMsgHandling

```

## 5. Directories

Directories in /px1data (from ds1):

```

ds1-tbdr:root:147# lsf /px1data
BACKUPLDAD512/ badText/ lost+found/ procs/ tempNetcdf/
BACKUPLDAD521/ customFiles/ mark/ redbook/ textWSwork/
BACKUPMSAS521/ data/ mhs/ rps-lists/ tmp/
Grid/ dgm/ nationalData/ sat/ trigger/
JUNK/ eLog/ nowrad/ scripts/ tstorm/
afos/ img/ nwr/ siteConfig/ verification/
archive/ ispan/ nwss/ staging/ workFiles/
badSatellite/ ldadScheduler/ point/ temp/
ds1-tbdr:root:148#

```

**/px1data/Grid, /px1data/sat, /px1data/img, and /px1data/tmp are the same as expected on a non-PX site's /data/fxa/Grid, /data/fxa/sat, /data/fxa/img, and /data/fxa/tmp (respectively).**

Directories in /px2data (from ds1):

```

ds1-tbdr:root:148# lsf /px2data
BACKUPLDAD512/ customFiles/ nationalData/ siteConfig/
BACKUPLDAD521/ data/ nowrad/ staging/
BACKUPMSAS521/ dgm/ nwr/ temp/
Grid/ eLog/ nwss/ tempNetcdf/
JUNK/ img/ point/ textWSwork/
LX-usr-local.tar* ispan/ procs/ tmp/
afos/ ldadScheduler/ redbook/ trigger/
archive/ lost+found/ rps-lists/ tstorm/
badSatellite/ mark/ sat/ verification/

```

```
badText/           mhs/           scripts/           workFiles/
ds1-tbdr:root:149#
```

**/px2data/point and /px2data/tmp are the same as expected on a non-PX site's /data/fxa/point and /data/fxa/tmp (respectively).**

```
rlogin px2f
ps -efw|grep fxa

fxa /awips/fxa/bin/acqserver 1800 (1-5)
fxa /awips/fxa/bin/BufrDriver
fxa /awips/fxa/bin/CommsRouter COMMS_ROUTER
fxa /awips/fxa/bin/DataController COMMS_ROUTER BufrDriverCont1.config
```

Template files should be in place (though usually missing template files will show up as log errors in the decoders and the notification server):

```
find /data/fxa -type f -name template -follow
(Note: Use follow to follow links from /data/fxa/Grid to /px1data/Grid and
from /data/fxa/point to /px2data/point)
/data/fxa/Grid/FSL/netCDF/LAPS_Grid/LAPS/template
/data/fxa/Grid/FSL/netCDF/MSAS/template
/data/fxa/Grid/SBN/netCDF/NHEM201/AVN/template
/data/fxa/Grid/SBN/netCDF/NHEM201/MRF/template
/data/fxa/Grid/SBN/netCDF/CONUS202/AVN/template
/data/fxa/Grid/SBN/netCDF/CONUS202/MRF/template
/data/fxa/Grid/SBN/netCDF/CONUS202/NGM/template
/data/fxa/Grid/SBN/netCDF/CONUS211/AVN/template
/data/fxa/Grid/SBN/netCDF/CONUS211/Eta/template
/data/fxa/Grid/SBN/netCDF/CONUS211/NGM/template
/data/fxa/Grid/SBN/netCDF/CONUS211/RUC/template
/data/fxa/Grid/SBN/netCDF/CONUS212/Eta/template
/data/fxa/Grid/SBN/netCDF/CONUS212/MesoEta/template
/data/fxa/Grid/SBN/netCDF/CONUS213/AVN/template
/data/fxa/Grid/SBN/netCDF/CONUS213/NGM/template
/data/fxa/Grid/SBN/netCDF/CONUS215/MesoEta/template
/data/fxa/Grid/SBN/netCDF/LATLON/ECMWF/template
/data/fxa/Grid/SBN/netCDF/LATLON/UKMET/template
/data/fxa/Grid/SBN/netCDF/LATLON/ENSEMBLE/template
/data/fxa/Grid/SBN/netCDF/REG233/GWW/template
/data/fxa/Grid/SBN/netCDF/NHEM219/SeaIce/template
/data/fxa/Grid/SBN/netCDF/GRID218/QPF/template
/data/fxa/Grid/SBN/netCDF/GRID236/RUC2/template
/data/fxa/Grid/SBN/netCDF/GRID238/GWW/template
/data/fxa/Grid/TDL/netCDF/LAMP_Grid/LAMP/template
/data/fxa/Grid/TDL/netCDF/LAMP_Grid/QPF/template
/data/fxa/point/raob/netcdf/template
/data/fxa/point/profiler/netcdf/template
/data/fxa/point/maritime/netcdf/template
/data/fxa/point/metar/netcdf/template
/data/fxa/point/model/ETA/netcdf/template
/data/fxa/point/model/AVN/netcdf/template
/data/fxa/point/GOES/netcdf/template
/data/fxa/point/acars/netcdf/template
/data/fxa/point/aircraft/netcdf/template
```

```
/data/fxa/point/synoptic/netcdf/template
/data/fxa/point/LSR/netCDF/template
/data/fxa/point/acarsProfiles/netcdf/template
/data/fxa/LDAD/hydro/netCDF/template
/data/fxa/LDAD/mesonet/netCDF/template
/data/fxa/LDAD/mesonet/qc/template
/data/fxa/LDAD/manual/netCDF/template
/data/fxa/LDAD/sfc_netcdf/template
```

If template files don't exist you may need to rerun the localization command to recreate them (on px1f and px2f as fxa run ./mainScript.csh -dirs -fixGeo)  
 Missing templates mean the grid for that template will not be created or readable.

On ASs:

Check the directories:

```
as1-tbdr:root:131# bdf
Filesystem      kbytes   used   avail %used Mounted on
/dev/vg00/lvol3    102400  29614   68267  30% /
/dev/vg00/lvol1     47829  19878   23168  46% /stand
/dev/vg00/lvol6    212992  144696   64380  69% /var
/dev/vg00/lvol5    512000  341249   160176  68% /usr
/dev/vg00/lvol7    151552  122248   27561  82% /usr/local
/dev/vg01/lvol3    593920  498210   89783  85% /opt
/dev/vg01/lvol6    307200  79744   213731  27% /data/logs
/dev/vg00/lvol8     20480   1307   18172   7% /data/co
/dev/vg01/lvol2    204800  55972   139544  29% /awips/ops
/dev/vg01/lvol5    155648   1141   144858   1% /awips/laps
/dev/vg01/lvol4    409600  331863   73379  82% /awips/fxa
/dev/vg00/lvol4     99669    139   89563   0% /tmp
ds-tbdr:/data/fxa  5427200 2499040  2804832  47% /dsdata
px1f:/px1data      25205280 3045888  20879016  13% /px1data
px2f:/px2data      25205280 268936   23655968   1% /px2data
ds-tbdr:/awips/hydroapps
                    409600 2710736  1321312  67% /awips/hydroapps
ds-tbdr:/home       2293760 412416  1764616  19% /home
ds-tbdr:/awips/dev   307200  43008  247744  15% /awips/dev
ds-tbdr:/data/archive_cache
                    409600   1720  382904   0% /data/archive_cache
ds-tbdr:/data/archive_restore
                    614400  30288  548560   5% /data/archive_restore
ds-tbdr:/data/local
                    1013760 366296  607800  38% /data/local
ds-tbdr:/data/fxa_local
                    1228800 340176  849944  29% /data/fxa_local
ds-tbdr:/awips/gis  1024000 533712  459648  54% /awips/gis
ds-tbdr:/opt/informix
                    1179648 895456  267184  77% /opt/informix
as1-tbdr:root:132#
```

ds:/data/fxa mounted on /dsdata, px1f:/px1data mounted on /px1data,  
 px2f:/px2data mounted on /px2data . Use should not be over 90% for any file system.

Any missing directories need remounting – may need to kill the processes that would use that directory remount and then restart them.

On (for) WS:

Check the directories:

```
ws1-tbdr:root:166# bdf
Filesystem      kbytes   used   avail %used Mounted on
/dev/vg00/lvol3    86016   24031   58335  29% /
/dev/vg00/lvol7   163840   50077  107243  32% /var
/dev/vg00/lvol6   430080  328502   95240  78% /usr
/dev/vg00/lvol4   446464  238880  194654  55% /opt
/dev/vg01/lvol4   102400    7172   89882   7% /data/logs
/dev/vg01/lvol2   102400   37099   61244  38% /awips/ops
/dev/vg01/lvol3   565248  407071  149140  73% /awips/fxa
/dev/vg00/lvol5    79701     134   71596   0% /tmp
ds-tbdr:/awips/gis 1024000  533712  459648  54% /awips/gis
ds-tbdr:/data/fxa_local
                    1228800  341016  849144  29% /data/fxa_local
ds-tbdr:/data/local
                    1013760  366296  607800  38% /data/local
ds-tbdr:/data/archive_cache
                    409600    1720   382904   0% /data/archive_cache
ds-tbdr:/data/archive_restore
                    614400   30288   548560   5% /data/archive_restore
ds-tbdr:/awips/hydroapps
                    4096000 2710736 1321312  67% /awips/hydroapps
ds-tbdr:/home     2293760  412416 1764616  19% /home
ds-tbdr:/awips/dev 307200   43008  247744  15% /awips/dev
/dev/vg00/lvol8   151552  124029   25890  83% /usr/local
/dev/vg00/lvol1    47829   15547   27499  36% /stand
ds-tbdr:/data/fxa 5427200 2498808 2805048  47% /dsdata
px1f:/px1data    25205280 3052416 20872480  13% /px1data
px2f:/px2data    25205280 269456 23655448   1% /px2data
ds-tbdr:/opt/langtools
                    1179648  895456  267184  77% /opt/langtools
ds-tbdr:/opt/fortran
                    1179648  895456  267184  77% /opt/fortran
ds-tbdr:/opt/informix
                    1179648  895456  267184  77% /opt/informix
ds-tbdr:/opt/softbench
                    1179648  895456  267184  77% /opt/softbench
ds-tbdr:/opt/ansic 1179648  895456  267184  77% /opt/ansic
ds-tbdr:/opt/gcc   1179648  895456  267184  77% /opt/gcc
ds-tbdr:/opt/binutils
                    1179648  895456  267184  77% /opt/binutils
ds-tbdr:/opt/vni   1179648  895456  267184  77% /opt/vni
ds-tbdr:/opt/fortran90
                    1179648  895456  267184  77% /opt/fortran90
ws1-tbdr:root:167#
```

ds:/data/fxa mounted on /dsdata, px1f:/px1data mounted on /px1data, px2f:/px2data  
mounted on /px2data . Use should not be over 90% for any file system.

Any missing directories need remounting – may need to kill the processes that would use that directory remount and then restart them.

## 6. StartScripts:

On ds1 and ds2: **/awips/fxa/bin/startIngest.ds1** – grib and sat processes should not be started.

On as1 and as2: **/awips/fxa/bin/startBufrDriver** – the bufrDriver is should not be started.

On px1f and px2f: **/awips/fxa/bin/startIngest.px1**,  
**/awips/fxa/bin/stopIngest.px1**, **/awips/fxa/bin/startIngest.px2**, and  
**/awips/fxa/bin/stopIngest.px2** run as fxa to start px processes on each px.

Running the package start script as root on px1f and px2f respectively:

```
/etc/cluster/px1apps start #and /etc/cluster/px1apps stop  
/etc/cluster/px2apps start #and /etc/cluster/px2apps stop
```

Check PX cluster status by logging into px1f as root and running:

```
[root@px1-tbdr root]# cluadmin -- cluster status  
(Note: clustat runs the same command)
```

```
Cluster Status Monitor (awips
```

14:50:44

Cluster alias: Not Configured

```
===== Member Status =====
Member      Status     Node Id     Power Switch
-----      -----     -----     -----
px1-tbw4    Up        0          Good
px2-tbw4    Up        1          Good

===== Heartbeat Status =====
Name           Type     Status
-----           -----   -----
px1-beat      <--> px2-beat  network  ONLINE
/dev/ttyS1    <--> /dev/ttyS1  serial   ONLINE

===== Service Status =====
                         Last       Monitor  Restart
Service      Status     Owner     Transition Interval Count
-----      -----     -----     -----      -----  -----
px1apps     started   pxi-tbw4   10:27:39 Jan 28  0      0
px2apps     started   px2-tbw4   10:26:06 Jan 28  0      0
```

[root@px1-tbdr root]#

## 7. Swapping Back from a failed PX condition:

- Make sure all physical connections for the PX that failed have been reconnected properly.
- Log into the failed PXs console (usually through the Xplex).
- Reboot the failed PX.
- 
- After the wait, log in and recheck network connectivity. Use ping and remsh to the other PX, the DS and to the CPs. Also make sure a ping works to both AWIPS switches. Once the network connectivity has been assured, enable the ping.sh cron -- by removing the /etc/cluster/ping.lock file (`rm /etc/cluster/ping.lock`).
- Run clustat to see if the new PX is recognized as being up and available. Run `cluadmin -service relocate pxXapps` to relocate the failed package back to the fixed PX ( pxXapps stands for the PXs normal package (px1apps for px1 or px2apps for px2).

## 8. UNINSTALL the PX Software (5.2.2. ONLY!!!!)

NOTE: The **uninstall** will log out all workstations and kill all awipsusr, fxa, and ifps processes on WSS and LXs.

- Notify forecasters the system will be unavailable for 15 minutes. Log out of all workstations
- Ensure data acquisition is ok, including the data monitor.
- Start Uninstall script; the script output is captured in the InstallPX-uninstall.out file:

```
cd /home/awipsadm/install/PX
script -a /home/ncfuser/InstallPX-uninstall.out
./InstallPX.sh uninstall
```

- At the prompt, type **yes** after the system checkout:

```
ARE YOU SURE YOU WANT TO UNINSTALL THE PREPROCESSORS? (yes or
no) -->yes
```

- Type **Exit** when script is done.
- Type **./checkmounts** in /home/awipsadm/install/PX
- Verify /data/fxa is mounted on all machines as /data/fxa and not /dsdata.
- If /dsdata is still mounted unmount it and remount ds:/data/fxa /data/fxa (you may need to stop some processes to unmount – don't forget to restart them if you are on a server).
- Check cpsbn1:/awips/data/acq\_send\_parms.sbn (see that px1f is not listed in it)
- Check cpsbn2:/awips/data/acq\_send\_parms.sbn (see that px1f is not listed in it)
- Check the data acquisition:

As root log into cpsbn1 (or cpsbn2):

```
acq_stats -m5
```

```
cpsbn1-tbdr [pid=733] update/refresh(0/30 sec) GMT Wed Jul 10 22:33:31 2002
                                         Start [Wed Jul 10 22:33:31]
```

```
--> shmem_region[5] _____
```

```
Status client link/group/hosts 0/All/All sem_cnt= 1/ 1 (1=nonwait)
      host     client dist out      last_time          last_#           total
      id      name   pid  hdr typ    conn   xfr(I/A/F)  prod  buff    prod  buff
0  ds-tbdr   32743   0 acq     n/a     n/a       0W    0      0      0
0  ds-tbdr   32703*   0 acq     n/a     n/a       0W    0      0      0
1  px1f-tbdr 32711*   0 acq     n/a     n/a       0W    0      0      0
1  px1f-tbdr 32719*   0 acq     n/a     n/a       0W    0      0      0
1  px1f-tbdr 32727*   0 acq     n/a     n/a       0W    0      0      0
2  px2f-tbdr 32735*   0 acq     n/a     n/a       0W    0      0      0
```

If you see this, /awips/data/acq\_send\_parms.sbn may need correction or restart processes on the cp. Try copying /awips/data/acq\_send\_parms.sbn.PrePX over /awips/data/acq\_send\_parms.sbn and then run /awips/bin/stop\_cpsbn\_all and then /awips/bin/start\_cpsbn\_all.

To check acq\_send\_parms.sbn run the following on the cp:

```
grep px1f /awips/data/acq_send_parms.sbn
```

There should either be no output since the correct version will not contain px1f or px2f, or the lines reported should be comments (starting with a "#").

ipc.config on ds:/data/fxa/nationalData: px1f is not listed for GRIB\_ROUTER  
ds1:/awips/fxa/bin/startIngest.ds1 (compare it to a non-PX site – sat and Grib processes should not be commented out)  
ds2:/awips/fxa/bin/startIngest.ds2 (compare it to a non-PX site – sat and Grib processes should not be commented out)  
as1:/awips/fxa/bin/startBufrDriver (compare it to a non-PX site – this file should start the BufrDriver; not just be an echo statement saying that BufrDriver has been relocated to px2f)

If any of these files are wrong, check to see if a \*.PrePX file exists. If so, this is the pre PX install file that should have been copied back.

---

---

**PX Uninstall Script Output Sample**

---

---

```
Script started on Tue Jul 23 13:39:47 2002
ds1-nmtr:root:1685# ./InstallPX.sh uninstall

Running ./InstallPX.sh uninstall - Tue Jul 23 13:40:09 GMT 2002

Running System checkout
  checking that lx1 has a recent display log
    lx1 is accessible and seems to have been used recently
  checking that the datamonitor detects that the site is receiving
data:
  grid data detected
  sat data detected
  point data detected
  checking that the datamonitor detects processes running:
    all processes are running according to the data monitor
  checking that /etc/hosts contains px1, px1f, px2 and px2f
  checking that all machines are pingable:
    ping test to px1 passes
    ping test to px2 passes
    ping test to ds1 passes
    ping test to ds2 passes
    ping test to as1 passes
    ping test to as2 passes
    ping test to ws1-nmtr passes
    ping test to ws2-nmtr passes
    ping test to lx1-nmtr passes
    ping test to hub1-nmtr passes
    ping test to hub2-nmtr passes
    ping test to cpsbn1 passes
    ping test to cpsbn2 passes
  checking that no packages are in a failed over state:
    all swap packages are running on their primary
```

checking that root remsh works to all machines and that home is accessible:

```
remsh test of px1 passes
remsh test of px2 passes
remsh test of ds1 passes
remsh test of ds2 passes
remsh test of as1 passes
remsh test of as2 passes
remsh test of ws1-nmtr passes
remsh test of ws2-nmtr passes
remsh test of lx1-nmtr passes
checking that /px1data and /px2data are accessible:
checking that the necessary files are accessible:
System check out complete.
```

Running PX uninstall - Tue Jul 23 13:40:29 GMT 2002

ARE YOU SURE YOU WANT TO UNINSTALL THE PREPROCESSORS? (yes or no)  
-->**yes**

UNInstalling PX files:

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!    STOPPING INGEST TO ACTIVATE - Tue Jul 23 13:40:34 GMT 2002
!!
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

RE-ACTIVATING CPs

Checking that /etc/hosts on cps are correct

- cpsbn1
- cpsbn2

Uninstalling cpfiles:

- cpsbn1

Uninstalling cpfiles:

- cpsbn2

restarting cpsbn1

restarting cpsbn2

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:

```
tail -f on /home/ncfuser/InstallPX.log.200207231340 #or
tail -f /etc/cmcluster/as[12]swap/*.log
```

Stopping Ingest on DS1

Stopping Ingest on AS1

Stopping Ingest on AS2

```
stopping PX processes!
  on px1
  on px2
Restoring /etc/hosts.equiv and .rhosts files
  restoring as1:/etc/hosts.equiv
  restoring as1:/.rhosts
  restoring as1:/awips/fxa/.rhosts
  restoring as1:/awips/fxa/awipsusr/.rhosts
  restoring as1:/awips/fxa/textdemo/.rhosts
  restoring as2:/etc/hosts.equiv
  restoring as2:/.rhosts
  restoring as2:/awips/fxa/.rhosts
  restoring as2:/awips/fxa/awipsusr/.rhosts
  restoring as2:/awips/fxa/textdemo/.rhosts
  restoring ds1:/etc/hosts.equiv
  restoring ds1:/.rhosts
  restoring ds1:/awips/fxa/.rhosts
  restoring ds1:/awips/fxa/awipsusr/.rhosts
  restoring ds1:/awips/fxa/textdemo/.rhosts
  restoring ds2:/etc/hosts.equiv
  restoring ds2:/.rhosts
  restoring ds2:/awips/fxa/.rhosts
  restoring ds2:/awips/fxa/awipsusr/.rhosts
  restoring ds2:/awips/fxa/textdemo/.rhosts
  restoring ws1-nmtr:/etc/hosts.equiv
  restoring ws1-nmtr:/.rhosts
  restoring ws1-nmtr:/awips/fxa/.rhosts
  restoring ws1-nmtr:/awips/fxa/awipsusr/.rhosts
  restoring ws1-nmtr:/awips/fxa/textdemo/.rhosts
  restoring ws2-nmtr:/etc/hosts.equiv
  restoring ws2-nmtr:/.rhosts
  restoring ws2-nmtr:/awips/fxa/.rhosts
  restoring ws2-nmtr:/awips/fxa/awipsusr/.rhosts
  restoring ws2-nmtr:/awips/fxa/textdemo/.rhosts
  restoring lx1-nmtr:/etc/hosts.equiv
  restoring lx1-nmtr:/root/.rhosts
  restoring lx1-nmtr:/awips/fxa/.rhosts
  restoring lx1-nmtr:/awips/fxa/awipsusr/.rhosts
  restoring cpsbn1:/etc/hosts.equiv
  restoring cpsbn1:/root/.rhosts
  restoring cpsbn2:/etc/hosts.equiv
  restoring cpsbn2:/root/.rhosts
Restoring the dsl
  - directories
  - links
SITE WILL NEED TO RESTART D2D
Restoring as1
```







```
        see /home/ncfuser/InstallPX.log.200207231340 for processes
killed
        - directories (mount points)
restoring mc.sg.fstab:
    - on as1
    - on as2
    - on ds1
    - on ds2
Restore from the new PX files
    restoring as1:/awips/fxa/bin/startBufrDriver.PrePX to
as1:/awips/fxa/bin/startBufrDriver
    restoring as1:/awips/fxa/bin/restartNotificationServer.PrePX
to
as1:/awips/fxa/bin/restartNotificationServer
    restoring as2:/awips/fxa/bin/startBufrDriver.PrePX to
as2:/awips/fxa/bin/startBufrDriver
```

```
restoring as2:/awips/fxa/bin/restartNotificationServer.PrePX
to
as2:/awips/fxa/bin/restartNotificationServer
    restoring
ds:/awips/fxa/data/localization/nationalData/ipc.config.PrePX to
ds:/awips/fxa/data/localization/nationalData/ipc.config
    restoring
ds:/data/fxa/data/fxa_monitor/monitorProcesses.txt.PrePX to
ds:/data/fxa/data/fxa_monitor/monitorProcesses.txt
    restoring px1:/awips/fxa/bin/killProc.PrePX to
px1:/awips/fxa/bin/killProc
    restoring px1:/etc/cluster/px1apps.PrePX to
px1:/etc/cluster/px1apps
    restoring px1:/etc/cluster/px2apps.PrePX to
px1:/etc/cluster/px2apps
    restoring px2:/awips/fxa/bin/killProc.PrePX to
px2:/awips/fxa/bin/killProc
    restoring px2:/etc/cluster/px1apps.PrePX to
px2:/etc/cluster/px1apps
    restoring px2:/etc/cluster/px2apps.PrePX to
px2:/etc/cluster/px2apps
restoring startIngest.ds1, fxa-data.purge, and scour.conf.ds
- on ds1
- on ds2
- on as1
- on as2
RESTARTNG INGEST!
```

TO VIEW OUTPUT OF START/STOP SCRIPTS USE:  
tail -f on /home/ncfuser/InstallPX.log.200207231340 #or  
tail -f /etc/cmcluster/as[12]swap/\*.log

```
Starting ingest on as1!
Starting ingest on as2!
Starting ingest on ds1!
```

Removing Release\_ID

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!! INGEST RESTORED - Tue Jul 23 13:51:47 GMT 2002 !!
!!          PLEASE RESTART ALL D2Ds          !!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

PX1 and PX2 REMOVED!!!!  
PXS ARE NO LONGER PART OF AWIPS INGEST

```
./InstallPX.sh uninstall COMPLETE -- Tue Jul 23 13:51:47 GMT 2002  
ds1-nmtr:root:1686# exit  
script done on Tue Jul 23 13:52:19 2002
```

**Attachment D****NIS Configuration Output Sample**

```
ds1-<site>:root:274# ./testit
Adding PX entries to /etc/hosts...
Reconfiguring NIS Server on ds1...
stopping rpc.yppasswd
stopping rpc.ypupdated
stopping ypserv
stopping ypxfrd
stopping keyserv
```

You will be required to answer a few questions to install the Network Information Service.  
All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

At this point, you must construct a list of the hosts which will be NIS servers for the "<site>.awips1" domain.

This machine, ds1-<site>, is in the list of Network Information Service servers.

Please provide the hostnames of the slave servers, one per line.

When you have no more names to add, enter a <ctrl-D> or a blank line.

```
next host to add: ds1-<site>
next host to add:   next host to add:   next host to add:   next host to add:   next
host to add:   next host to add:   next host to add:
```

The current list of NIS servers looks like this:

```
ds1-<site>
y
ds2-<site>
as1-<site>
as2-<site>
px1-<site>
px2-<site>
```

Is this correct? [y/n: y]

There will be no further questions. The remainder of the procedure should take 5 to 10 minutes.

Building the ypservers database... ypservers build complete.

Running make in /var/yp:

```
updated passwd  
updated group  
updated hosts  
updated networks  
updated rpc  
updated services  
updated protocols  
updated netgroup  
updated aliases  
updated publickey  
updated netid  
updated vhe_list  
updated auto.master
```

ds1-<site> has been set up as a master Network Information Service server without any errors.

If there are running slave NIS servers, run yppush(1M) now for any databases which have been changed. If there are no running slaves, run ypinit on those hosts which are to be slave servers.

```
starting NIS SERVER networking  
starting up the portmapper  
    portmap already started, using pid: 813  
    domainname <site>.awips1  
starting up the Network Information Service  
    starting up the ypserv daemon  
    /usr/lib/netsvc/yp/ypserv  
    starting up the ypxfrd daemon  
    /usr/sbin/ypxfrd  
    starting up the rpc.yppasswdd daemon  
    /usr/lib/netsvc/yp/rpc.yppasswdd /etc/passwd -m passwd PWFILE=/etc/passwd  
    starting up the rpc.ypupdated daemon  
    /usr/lib/netsvc/yp/rpc.ypupdated  
    starting up the keyserv daemon
```

/usr/sbin/keyserv

Reconfiguring NIS Server on ds2...

stopping ypserv

stopping ypxfrd

stopping keyserv

You will be required to answer a few questions to install the Network Information Service.

All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

Can the existing directory "/var/yp/<site>.awips1"

and its contents be destroyed? [y/n: n] There will be no further questions. The remainder of the procedure, copying

the databases from 165.92.<nn>.<nn>, will take a few minutes.

Note that if your master NIS server, 165.92.<nn>.<nn>, is an HP machine, it is expected that the NIS databases ethers.byaddr, and ethersbyname will not exist for you to copy. As a result, you may ignore any "no such map" error messages produced when those maps are attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is not an HP machine.

If your master NIS server, 165.92.<nn>.<nn>, is not an HP machine, it is expected that the NIS database vhe\_list will not exist for you to copy, and you may ignore any "no such map" error messages seen when it is attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is an HP machine and its ypmake(1M) is from an older release.

Transferring group.bygid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring groupbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hostsbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byhost for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byuser for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networksbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwdbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwd.byuid for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring protocolsbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring protocols.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring rpc.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring servicesbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring vhe\_list for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring publickeybyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring netidbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring mailbyaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring mailaliases for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring automaster for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring rpcbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring servi.bynp for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ethersbyaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ethersbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring netmasksbyaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring bootparams for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ypservers for domain <site>.awips1 from 165.92.<nn>.<nn>...

ds2-<site> has been set up as a slave Network Information Service server with errors.

At this point, make sure that /etc/passwd, /etc/hosts, /etc/networks, /etc/group, /etc/protocols, /etc/services, /etc/rpc and /etc/netgroup have been edited so that when the Network Information Service is activated, the databases you have just created will be used in addition to or instead of the /etc ASCII files.

Please remember to correct the errors, and run ypinit again.

```
starting NIS SERVER networking
starting up the portmapper
portmap already started, using pid: 817
domainname <site>.awips1
starting up the Network Information Service
starting up the ypserv daemon
/usr/lib/netsvc/yp/ypserv
starting up the ypxfrd daemon
/usr/sbin/ypxfrd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppasswdd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yputupdated
starting up the keyserv daemon
/usr/sbin/keyserv
```

Reconfiguring NIS Server on as1...

stopping ypserv

stopping ypxfrd

stopping keyserv

You will be required to answer a few questions to install the Network Information Service.

All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

Can the existing directory "/var/yp/<site>.awips1"

and its contents be destroyed? [y/n: n] There will be no further questions. The remainder of the procedure, copying the databases from 165.92.<nn>.<nn>, will take a few minutes.

Note that if your master NIS server, 165.92.<nn>.<nn>, is an HP machine, it is expected that the NIS databases ethers.byaddr, and ethersbyname will not exist for you to copy. As a result, you may ignore any "no such map" error messages produced when those maps are attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is not an HP machine.

If your master NIS server, 165.92.<nn>.<nn>, is not an HP machine, it is expected that the NIS database vhe\_list will not exist for you to copy, and you may ignore any "no such map" error messages seen when it is attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is an HP machine and its ypmake(1M) is from an older release.

Transferring group.bygid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring groupbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hostsbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byhost for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byuser for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networksbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwdbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwdbyuid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring protocolsbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring protocols.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring rpc.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring servicesbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring vhe\_list for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring publickeybyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring netidbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring mail.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring mail\_aliases for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring auto.master for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring rpcbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring servi.bynp for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ethers.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ethersbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring netmasks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring bootparams for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ypservers for domain <site>.awips1 from 165.92.<nn>.<nn>...

At this point, make sure that /etc/passwd, /etc/hosts, /etc/networks, /etc/group, /etc/protocols, /etc/services, /etc/rpc and /etc/netgroup have been edited so that when the Network Information Service is activated, the databases you have just created will be used in addition to or instead of the /etc ASCII files.

as1-<site> has been set up as a slave Network Information Service server with errors.  
Please remember to correct the errors, and run ypinit again.

```
starting NIS SERVER networking
starting up the portmapper
    portmap already started, using pid: 786
    domainname <site>.awips1
starting up the Network Information Service
    starting up the ypserv daemon
    /usr/lib/netsvc/yp/ypserv
    starting up the ypxfrd daemon
    /usr/sbin/ypxfrd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppasswdd
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.ypupdated
starting up the keyserv daemon
    /usr/sbin/keyserv
```

Reconfiguring NIS Server on as2...

stopping ypserv

EHB-13, Ser II  
Issuance 03-04  
3/12/03

stopping ypxfrd

stopping keyserv

You will be required to answer a few questions to install the Network Information Service.

All questions will be asked at the beginning of this procedure.

Do you want this procedure to quit on non-fatal errors? [y/n: n] OK, but please remember to correct anything which fails.

If you don't, some part of the system (perhaps the NIS itself) won't work.

Can the existing directory "/var/yp/<site>.awips1"

and its contents be destroyed? [y/n: n] There will be no further questions. The remainder of the procedure, copying

the databases from 165.92.<nn>.<nn>, will take a few minutes.

Note that if your master NIS server, 165.92.<nn>.<nn>, is an HP machine, it is expected that the NIS databases ethers.byaddr, and ethersbyname will not exist for you to copy. As a result, you may ignore any "no such map" error messages produced when those maps are attempted to be transferred.

This may also be true if 165.92.<nn>.<nn> is not an HP machine.

If your master NIS server, 165.92.<nn>.<nn>, is not an HP machine, it is expected that the NIS database vhe\_list will not exist for you to copy, and you may ignore any "no such map" error messages seen when it is attempted to be transferred. This may also be true if 165.92.<nn>.<nn> is an HP machine and its ypmake(1M) is from an older release.

Transferring group.bygid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring groupbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hosts.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring hostsbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byhost for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring netgroup.byuser for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring networksbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwdbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring passwdbyuid for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring protocolsbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring protocolsbynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring rpc.bynumber for domain <site>.awips1 from 165.92.<nn>.<nn>...

Transferring servicesbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring vhe\_list for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring publickeybyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring netidbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring mail.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring mail\_aliases for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring auto.master for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring rpcbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring servi.bypn for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ethers.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ethersbyname for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring netmasks.byaddr for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring bootparams for domain <site>.awips1 from 165.92.<nn>.<nn>...  
Transferring ypservers for domain <site>.awips1 from 165.92.<nn>.<nn>...

At this point, make sure that /etc/passwd, /etc/hosts, /etc/networks, /etc/group, /etc/protocols, /etc/services, /etc/rpc and /etc/netgroup have been edited so that when the Network Information Service is activated, the databases you have just created will be used in addition to or instead of the /etc ASCII files.

as2-<site> has been set up as a slave Network Information Service server with errors.  
Please remember to correct the errors, and run ypinit again.

starting NIS SERVER networking  
starting up the portmapper  
portmap already started, using pid: 794  
domainname <site>.awips1  
starting up the Network Information Service  
    starting up the ypserv daemon  
    /usr/lib/netsvc/yp/ypserv  
    starting up the ypxfrd daemon  
    /usr/sbin/ypxfrd  
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.yppasswdd  
This is an NIS slave server. Don't start /usr/lib/netsvc/yp/rpc.ypupdated  
starting up the keyserv daemon  
/usr/sbin/keyserv

Reconfiguring NIS Server on px1...

Stopping YP server services: [ OK ]  
Shutting down NIS services: [ OK ]  
Binding to the NIS domain: [ OK ]

Listening for an NIS domain server.

We will need a few minutes to copy the data from ds1-<site>.

Transferring netgroup...

Transferring vhe\_list...

Transferring rpc.bynumber...

Transferring netgroup.byhost...

Transferring netgroup.byuser...

Transferring networks.byaddr...

Transferring networks.byname...

Transferring protocols.bynumber...

Transferring mail.byaddr...

Transferring services.byname...

Transferring group.bygid...

Transferring group.bynname...

Transferring passwd.bynname...

Transferring passwd.byuid...

Transferring hosts.byaddr...

Transferring hosts.bynname...

Transferring protocols.bynname...

Transferring rpc.bynname...

Transferring servi.bynp...

Transferring netid.bynname...

Transferring auto.master...

Transferring ypservers...

Transferring mail\_aliases...

Transferring publickey.bynname...

px1-<site>'s NIS data base has been set up.

If there were warnings, please figure out what went wrong, and fix it.

At this point, make sure that /etc/passwd and /etc/group have been edited so that when the NIS is activated, the data bases you have just created will be used, instead of the /etc ASCII files.

Starting YP server services: [ OK ]

Done

Reconfiguring NIS Server on px2...

Stopping YP server services: [ OK ]

Shutting down NIS services: [ OK ]

Binding to the NIS domain: [ OK ]

Listening for an NIS domain server..

We will need a few minutes to copy the data from ds1-<site>.

Transferring mail.aliases...

Transferring ypservers...

Transferring auto.master...

Transferring netidbyname...

Transferring servi.bypn...

Transferring rpcbyname...

Transferring publickeybyname...

Transferring hostsbyname...

Transferring hostsbyaddr...

Transferring passwdbyuid...

Transferring passwdbyname...

Transferring groupbyname...

Transferring groupbygid...

Transferring servicesbyname...

Transferring protocolsbynumber...

Transferring mailbyaddr...

Transferring networksbyname...

Transferring networksbyaddr...

Transferring netgroupbyuser...

Transferring netgroupbyhost...

Transferring protocolsbyname...

Transferring vhe\_list...

Transferring netgroup...

Transferring rpcbynumber...

px2-<site>'s NIS data base has been set up.

If there were warnings, please figure out what went wrong, and fix it.

At this point, make sure that /etc/passwd and /etc/group have been edited so that when the NIS is activated, the data bases you have just created will be used, instead of the /etc ASCII files.

Starting YP server services: [ OK ]

Done.

ds1-<site>;root:275#

**Attachment E****High Speed LAN (HP Procurve) Port Assignments**

Port	10/100 Switch1	10/100 Switch2
1	xterm1	xterm2
2	xterm3	xterm4
3	xterm5	xterm6
4	xterm7	xterm8
5	xterm9	xterm10
6	xterm11	xterm12
7		
8		
9		
10	text printer	color printer
11		high-speed printer
12	lx1	lx2
13		
14		
15		
16		
17		
18		
19	linux cpsbn1	linux cpsbn1
20	linux cpsbn2	linux cpsbn2
21	linux px1	linux px1
22	linux px2	linux px2
23	AX	AX
24	lsw1 100BaseTx	lsw2 100BaseTx

**Attachment F****WFO and RFC Xyplex Port Assignments**

The following table defines the Xyplex configurations for WFO and RFC terminal servers port assignments. Flow control is disabled on all HP processor console ports, because XON flow control can suspend HP boot sequences. TELNET access in the Remarks column refers to the ability to use an AS or DS `telnet xyplex 1 nnnn` command to access a device connected to a Xyplex port; *nnnn* is the value (2000 + (100 \* port\_number)) (i.e., for Xyplex port 1 *nnnn* would be (2000 + (100 \*1) = 2100). At the HP 700/96 system console `xyplex>` prompt, either the command `telnet xyplex1:nnnn` or `connect xyplex1:nnnn` or `connect xyplex1:nnnn` may be used to access connected devices.

A connection to a Plaintree switched hub requires the use of a server (AS or DS) X-term window or a system console **Term Type** setting of **EM100**. All other connections should use a server hpterm window or a system console **Term Type** setting of **HP**.

<b>Port</b>	<b>WFO (collocated)</b>	<b>WFO (noncollocated)</b>	<b>RFC</b>	<b>Remarks</b>
1	AS1	AS1	AS1	TELNET 2100
2	AS2	AS2	AS2	TELNET 2200
3	PX1	PX1	WS11	TELNET 2300
4	PX2	PX2	WAN Probe2	TELNET 2400
5	DS1	DS1	DS1	TELNET 2500
6	DS2	DS2	DS2	TELNET 2600
7	AX	AX	WAN Probe1	TELNET 2700
8	LSW1	LSW1	LSW1	TELNET 2800 (VT100/X-term)
9	LSW2	LSW2	LSW2	TELNET 2900 (VT100/X-term)
10	LSW3	LSW3	LSW3	TELNET 3000
11	LSW4	LSW4	LSW4	TELNET 3100
12			Hub	TELNET 3200
13		Router1	Router1	TELNET 3300

<b>Port</b>	<b>WFO (collocated)</b>	<b>WFO (noncollocated)</b>	<b>RFC</b>	<b>Remarks</b>
14		Router2	Router2	TELNET 3400
15		TIU1	TIU1	TELNET 3500
16			TIU2	TELNET 3600
17	LX1	LX1	TIU3	TELNET 3700
18	LX2	LX2	TIU4	TELNET 3800
19	VIR	VIR	VIR	cu/dev/vir
20	WS1	WS1	WS1	TELNET 4000
21	WS2	WS2	WS2	TELNET 4100
22	WS3	WS3	WS3	TELNET 4200
23	WS4	WS4	WS4	TELNET 4300
24	WS5	WS5	WS5	TELNET 4400
25			WS6	TELNET 4500
26			WS7	TELNET 4600
27			WS8	TELNET 4700
28	PX1-RFC		WS9	TELNET 4800
29	PX2-RFC		WS10	TELNET 4900
30	LX1-RFC	DEMOD1	DEMOD1	cu/dev/demod1
31	LX2-RFC	DEMOD2	DEMOD2	cu/dev/demod2
32		DEMOD3*	DEMOD3*	cu/dev/demod3
33	CPSBN1	CPSBN1	CPSBN1	TELNET 5300
34	CPSBN2	CPSBN2	CPSBN2	TELNET 5400
35		DEMOD4**	DEMOD4**	cu/dev/demod4
36	CPSYNC1	CPSYNC1	CPSYNC1	TELNET 5600
37	CPSYNC2	CPSYNC2	CPSYNC2	TELNET 5700
38	LDAD Firewall	LDAD Firewall	LDAD Firewall	TELNET 5800

Port	WFO (collocated)	WFO (noncollocated)	RFC	Remarks
39	M&C Modem	M&C Modem	M&C Modem	Dial-in Direct Connect
40	System Console	System Console	System Console	Local Direct Connect

\*DEM0D3 at ACR, National Centers, and selected WFOs

\*\*DEM0D4 at National Centers and selected WFOs

**NOTE:** VRH uses port 12 for Router 3.

**Attachment G****List of Affected Sites**

<b>AWIPS ID</b>	<b>Region</b>	<b>City</b>	<b>State</b>	<b>Office Type</b>
ACR	Alaska	Anchorage	AK	RFC
AFC	Alaska	Anchorage	AK	WFO
LWX	Eastern	Sterling	VA	WFO
BIS	Central	Bismarck	ND	WFO
DDC	Central	Dodge City	KS	WFO
GJT	Central	Grand Junction	CO	WFO
ILX	Central	Lincoln (Indiannapolis)	IL	WFO
IND	Central	Indianapolis	IN	WFO
RIW	Central	Riverton	WY	WFO
AKQ	Eastern	Wakefield	VA	WFO
CHS	Eastern	Charleston	SC	WFO
FWD	Southern	Dallas/Ft. Worth	TX	WFO
LUB	Southern	Lubbock	TX	WFO
OHX	Southern	Nashville	TN	WFO
OUN	Southern	Norman	OK	WFO
BOI	Western	Boise	ID	WFO
BYZ	Western	Billings	MT	WFO
GGW	Western	Glasgow	MT	WFO
MSO	Western	Missoula	MT	WFO
PIH	Western	Pocatello/Idaho Falls	ID	WFO
SLC	Western	Salt Lake City	UT	WFO
TFX	Western	Great Falls	MT	WFO
BOU	Central	Denver	CO	WFO
CYS	Central	Cheyenne	WY	WFO
PUB	Central	Pueblo	CO	WFO
WNOR	Eastern	Camp Springs	MD	NC
ABQ	Southern	Albuquerque	NM	WFO
EPZ	Southern	EI Paso	TX	WFO
EKA	Western	Eureka	CA	WFO
FGZ	Western	Flagstaff	AZ	WFO
HNX	Western	Hanford	CA	WFO
LKN	Western	Elko	NV	WFO
LOX	Western	Los Angelas	CA	WFO
MFR	Western	Medford	OR	WFO
MTR	Western	San Francisco	CA	WFO
OTX	Western	Spokane	WA	WFO
PSR	Western	Phoenix	AZ	WFO
PTR	Western	Portland	OR	RFC
REV	Western	Reno	NV	WFO
RSA	Western	Sacramento	CA	RFC
SEW	Western	Seattle/Tacoma	WA	WFO
SGX	Western	San Diego	CA	WFO
STO	Western	Sacramento	CA	WFO
STR	Western	Salt Lake City	UT	RFC

AWIPS ID	Region	City	State	Office Type
TWC	Western	Tucson	AZ	WFO
VEF	Western	Las Vegas	NV	WFO
OSFW				
SFMG				
ABR	Central	Aberdeen	SD	WFO
APX	Central	Gaylord	MI	WFO
ARX	Central	La Crosse	WI	WFO
DLH	Central	Duluth	MN	WFO
DVN	Central	Davenport	IA	WFO
FGF	Central	Grand Forks	ND	WFO
FSD	Central	Sioux Falls	SD	WFO
GRB	Central	Green Bay	WI	WFO
GRR	Central	Grand Rapids	MI	WFO
IWX	Central	Northern Indiana	IN	WFO
JKL	Central	Jackson	KY	WFO
LBF	Central	North Platte	NE	WFO
LMK	Central	Louisville	KY	WFO
LOT	Central	Chicago	IL	WFO
MKX	Central	Milwaukee	WI	WFO
MPX	Central	Minneapolis	MN	WFO
MQT	Central	Marquette	MI	WFO
MSR	Central	Chanhassen	MN	RFC
NTCA	Central	Kansas City	MO	Training
NTCB	Central	Kansas City	MO	Training
NTCC	Central	Kansas City	MO	Training
NTCD	Central	Kansas City	MO	Training
OAX	Central	Omaha	NE	WFO
UNR	Central	Rapid City	SD	WFO
WNAR	Central	Kansas City	MO	NC
WNAW	Central	Kansas City	MO	NC
ALY	Eastern	Albany	NY	WFO
BGM	Eastern	Binghamton	NY	WFO
BTW	Eastern	Burlington	VT	WFO
BUF	Eastern	Buffalo	NY	WFO
CAR	Eastern	Caribou	ME	WFO
CLE	Eastern	Cleveland	OH	WFO
CTP	Eastern	State College	PA	WFO
GYX	Eastern	Gray/Portland	ME	WFO
NHDA	Eastern	Silver Spring	MD	HQ
NHOW	Eastern	Silver Spring	MD	HQ
OKX	Eastern	New York City	NY	WFO
PBZ	Eastern	Pittsburgh	PA	WFO
PHI	Eastern	Mt. Holly	NJ	WFO
RHA	Eastern	State College	PA	RFC
TAR	Eastern	Taunton	MA	RFC
TIR	Eastern	Wilmington	OH	RFC
WNOW	Eastern	Camp Springs	MD	NC
ALR	Southern	Peachtree City	GA	RFC
BRO	Southern	Brownsville	TX	WFO

<b>AWIPS ID</b>	<b>Region</b>	<b>City</b>	<b>State</b>	<b>Office Type</b>
CRP	Southern	Corpus Christi	TX	WFO
EHU	Southern	Fort Worth	TX	HQR
EWX	Southern	Austin/San Antonio	TX	WFO
EYW	Southern	Key West	FL	WFO
FWR	Southern	Fort Worth	TX	RFC
JAN	Southern	Jackson	MS	WFO
JAX	Southern	Jacksonville	FL	WFO
LIX	Southern	New Orleans/Baton Rouge	LA	WFO
LZK	Southern	Little Rock	AR	WFO
MAF	Southern	Midland/Odessa	TX	WFO
MEG	Southern	Memphis	TN	WFO
MFL	Southern	Miami	FL	WFO
MLB	Southern	Melbourne	FL	WFO
MOB	Southern	Mobile	AL	WFO
NHCW	Southern	Miami	FL	NC
ORN	Southern	Slidell	LA	RFC
SJT	Southern	San Angelo	TX	WFO
SJU	Southern	San Juan	PR	WFO
TAE	Southern	Tallahassee	FL	WFO
TUA	Southern	Tulsa	OK	RFC

The list below identifies sites for which Mod Note 7, Revision B does not apply. These sites fall into three categories: sites performing an initial PX in the AS2 rack installation; Ops Demo retrofit sites with PX installed in SB rack; and Ops Demo retrofit sites with PX installed in AS2 rack.

<b>Installed PX in AS2 Rack</b>	
GUM	Guam WFO
NHCR	National Center - Tropical Prediction
VRH	Alaska Regional HQ
<b>Ops Demo Retrofit - Installed PX in SB Rack</b>	
BOX	Boston WFO
DMX	Des Moines WFO
EHU	Southern Region HQ
FSL	Demo Site
ILN	Cincinnati WFO
KRF	Kansas City RFC
LCH	Lake Charles, WFO
LSX	St. Louis (WFO)
NHDA	Test Bed
NMTR	Test Bed
NMTR	Test Bed
NMTW	Test Bed
PDT	Pendleton WFO
PQR	Portland WFO
TBDR	Test Bed
TBDW	Test Bed
TBW	Tampa Bay Area WFO
TBW3	Test Bed
TBW4	Test Bed

VHW	Western Region HQ
WNCF	Network Control Facility
<b>Ops Demo Retrofit - Installed PX in AS2 Rack</b>	
HFO	Honolulu WFO
PBP	Pacific Region HQ
SPCW	National Center - WFO Storm Prediction Center

## Attachment H - Sample EMRS Report

**A26 Detail Form - ESCM2, SILVER SPRING, MD :: EMRS ANALYST - Microsoft Internet Explorer**

New A26 Commit A26 Place or Hold Copy A26 Delete A26 Detail Report Preference Document Summary Help

**GENERAL INFORMATION**

<b>NEW RECORD</b>		<b>WTO*</b> <input type="button" value="MSO"/> <input type="button"/>	<b>Document No.*</b> <input type="text" value="MS030312000"/>
<b>1. Open Date</b> 03/10/2003	<b>Open Time</b> <input type="button"/> 03:00	<b>2. Op Initials</b> WSF	<b>3. Response Priority</b> <input type="radio"/> Immediate <input type="radio"/> Low <input checked="" type="radio"/> Routine <input type="radio"/> Not Applicable
<b>4. Close Date</b> 03/11/2003	<b>Close Time</b> <input type="button"/> 16:00		
<b>5. Maintenance Description</b> <input type="text" value="405"/> characters left		AWIPS	
Install two AWIPS LINUX Pre-Processors (PX) I.A.W. AWIPS System Modification Note 7, Revision C			

**EQUIPMENT INFORMATION**

<b>6. Station ID*</b> <input type="button" value="MSO"/>	<b>7. Equipment Code</b> <input type="button" value="AWIPS"/>	<b>8. Serial Number</b> <input type="text" value="001"/>	<b>9. TM</b> <input type="button" value="M"/>	<b>10. AT</b> <input type="button" value="M"/>	<b>11. How M</b> <input type="button" value="999"/>
--	---	--	---	--	---

**Alert:** **Time Remaining:**  
(For Block 12 if serials)

**13. PARTS USAGE and CONFIGURATION MANAGEMENT REPORTING**

<b>ASN</b>	<b>Vendor Part No. (New Part)</b>	<b>Serial Number (Old Part)</b>	<b>Serial Number (New Part)</b>	<b>New Row</b>
<input type="button"/>	<input type="button"/>	<input type="button"/>	<input type="button"/>	<b>Delete Row</b>

**14. WORKLOAD INFORMATION**

<b>a. Routine</b> Hours <input type="text"/> Minutes <input type="text"/>	<b>b. Non-Routine</b> Hours <input type="text"/> Minutes <input type="text"/>	<b>c. Travel</b> Hours <input type="text"/> Minutes <input type="text"/>	<b>d. Misc</b> Hours <input type="text"/> Minutes <input type="text"/>	<b>e. Overtime</b> Hours <input type="text"/> Minutes <input type="text"/>
--	--	---	---	---

**MISCELLANEOUS INFORMATION**

<b>15. Maintenance Comments</b> <input type="text" value="706"/> characters left	<b>16. Tech Initials</b> <input type="text" value="RJP"/> <input type="button"/>
Serial Number of PX1: Serial Number of PX2: <input type="button"/>	

**17. SPECIAL PURPOSE REPORTING INFORMATION**

<b>a. Mod No.</b> <input type="text" value="TC"/>	<b>b. Mod Act/Deact Date</b> <input type="button"/>	<b>c. Block C</b> <input type="text"/>	<b>d. Trouble Ticket No.</b> <input type="text"/>	<b>e. Block E</b> <input type="text"/>
<input type="button" value="Commit A26"/>	<input type="button" value="Place on Hold"/>	<input type="button" value="Copy A26"/>	<input type="button" value="New A26"/>	<input type="button" value="Cancel"/>